

1981

Virginia Commonwealth University Graduate Bulletin

Virginia Commonwealth University

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Virginia
Commonwealth
University
Richmond, Virginia
1981-82
Graduate Bulletin



Virginia Commonwealth University Graduate Bulletin

1981-1982



Volume LVI

July 1981

Number 3

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The Board of Visitors, the administration, and the faculty of Virginia Commonwealth University are committed to a policy of equal opportunity in education without regard to race, creed, sex, national origin, age, or physical handicap.

LIMITATIONS ON BULLETIN PROVISIONS

All rules and regulations set forth in this bulletin will apply until further notice. The university reserves the right to make changes in courses of study, fees, rules, and regulations governing the conduct of the work in all schools and programs, faculty and staff, and classification of students whenever university authorities deem it expedient or wise to do so.

1981-1982 University Calendar

1981

July

- 6 —Last day for summer degree candidates to submit graduation applications to their advisors for August degrees

August

- 10 —Final date for oral defense of graduate theses for August completion of degrees
- 21 —Summer sessions end
- 22 —Official date of August diploma
- 24-26 —MCV orientation and registration
- 24-28 —Orientation and advising for all day students—Academic Campus
- 25 —Faculty meeting at 8:30 am—Academic Campus
- Faculty meeting at 3:30 pm—MCV Campus
- 25-26 —Evening studies registration
- 26-28 —Registration for all day students—Academic Campus
- 27 —Classes begin at 8 am—MCV Campus
- 27-Sept. 4 —Add/drop and late registration—MCV Campus
- 31 —Classes begin at 8 am—Academic Campus
- 31-Sept. 4 —Add/drop and late registration—Academic Campus

September

- 7 —Labor day holiday
- 25 —Last day for fall degree candidates to submit graduation applications to their advisors for December degrees

October

- 1 —Spring semester application deadline for international students
- 7-21 —Mid-semester evaluation
- 17 —Graduate Record Examination.*

*Test dates do not apply in New York State

- 23 —Last day to drop a course with a grade of “W”—both campuses
- 24 —Graduate Management Admissions Test

November

- 2-Dec. 11 —Advance mail registration—evening studies
- 2-11 —Advising and advance registration for continuing day students for spring semester
- 14 —National Teachers Examination
- 25 —Thanksgiving holiday begins at 5 pm
- 30 —Thanksgiving holiday ends at 8 am

December

- 9 —Last day of day classes for fall semester — Academic Campus
- 10-18 —Final examinations for fall semester — Academic Campus
- 11 —Last day of classes for fall semester — MCV Campus
- 12 —Graduate Record Examination
- 14-18 —Final examinations for fall semester — MCV Campus
- 14-19 —Final examinations for fall semester evening classes
- 14 —Christmas vacation begins at 5 pm
- Final date for oral defense of graduate theses for December completion of degrees
- 26 —Official date of December diploma
- 28 —Winter intersession classes begin

1982

January

- 5-6 —Evening studies registration
- 5-7 —Orientation and advising for all day students — Academic Campus
- 7 —Registration for all day students — Academic Campus
- Orientation and registration for new students — MCV Campus
- 11 —Classes begin at 8 am
- 11-15 —Add/drop and late registration for all students
- 22 —Last day for spring degree candidates to submit graduation applications to their advisors for May degrees
- 23 —Graduate Management Admissions Test

February

- 6 —Graduate Record Examination*
- 17-March 3 —Mid-semester evaluation
- 20 —National Teachers Examination

March

- 1 —Summer advance registration begins
- 5 —Last day to drop a course with a grade of “W” — both campuses
- 6 —Spring vacation begins at noon
- 15 —Spring vacation ends at 8 am
- 20 —Graduate Management Admissions Test
- 22-23 —Advising and registration for continuing day students for fall semester

April

- 1 —Fall semester admission application deadline for international students
- 17 —National Teachers Examination
- 24 —Graduate Record Examination*

- 28 —Last day of classes for spring semester — Academic Campus
- 29-May 7 —Final examinations for spring semester — Academic Campus
- 30 —Last day of classes for spring semester — MCV Campus

May

- 3-7 —Final examinations for spring semester — MCV Campus
- 3-8 —Final examinations for spring semester evening classes
- 3 —Final date for oral defense of graduate theses for May graduation
- 15 —Commencement day (includes August and December graduates)
- 17 —Summer sessions begin

June

- 12 —Graduate Record Examination*

August

- 1 —Fall semester deadline for non-summer school students to submit all required transcripts, etc., for admission to a degree program
- 9 —Final date for oral defense of graduate theses for August completion of degrees
- 14 —Summer sessions end

1982-1983 University Calendar

1982

July

- 5 —Last day for summer degree candidates to submit graduation applications to their advisors for August degrees
- 23 —Graduate Management Admissions Test

August

- 9 —Final date for oral defense of graduate theses for August completion of degrees
- 20 —Summer sessions end
- 21 —Official date of August diploma
- 23-25 —MCV orientation and registration
- 23-27 —Orientation and advising for all day students — Academic Campus
- 24 —Faculty meeting at 8:30 am — Academic Campus
- Faculty meeting at 3:30 pm — MCV Campus
- 24-25 —Evening studies registration
- 25-27 —Registration for all day students — Academic Campus
- 26 —Classes begin at 8 am — MCV Campus
- 26-Sept. 3 —Add/drop and late registration — MCV Campus
- 30 —Classes begin at 8 am — Academic Campus
- 30-Sept. 3 —Add/drop and late registration — Academic Campus

September

- 6 —Labor day holiday
- 24 —Last day for fall degree candidates to submit graduation applications to their advisors for December degrees

October

- 1 —Spring semester application deadline for international students
- 6-20 —Mid-semester evaluation
- 22 —Last day to drop a course with a mark of "W" — both campuses

November

- 1-10 —Advising and advance registration for continuing day students for spring semester
- 1-Dec. 10 —Advance mail registration — evening studies
- 24 —Thanksgiving holiday begins at 5 pm
- 29 —Thanksgiving holiday ends at 8 am

December

- 8 —Last day of day classes for fall semester — Academic Campus
- 9-17 —Final examinations for fall semester — Academic Campus
- 10 —Last day of classes for fall semester — MCV Campus
- 13-17 —Final examinations for fall semester — MCV Campus
- 13-18 —Final examinations for fall semester — evening studies
- 17 —Christmas vacation begins at 5 pm
- 13 —Final date for oral defense of graduate theses for December completion of degrees
- 27 —Official date of December diploma
- Winter intersession classes begin

1983**January**

- 4-5 —Evening studies registration
- 4-6 —Orientation and advising for all day students — Academic Campus
- 6 —Registration for all day students — Academic Campus
- Orientation and registration for new students — MCV Campus
- 10 —Classes begin at 8 am
- 10-14 —Add/drop and late registration for all students
- 21 —Last day for spring degree candidates to submit graduation applications to their advisors for May degrees

February

- 16-March 2 —Mid-semester evaluation
- 28 —Summer advance registration begins

March

- 4 —Last day to drop a course with a mark of "W" — both campuses
- 5 —Spring vacation begins at noon — both campuses
- 14 —Spring vacation ends at 8 am — both campuses
- 21-30 —Advising and registration for continuing students for fall semester

April

- 1 —Fall semester admission application deadline for international students
- 27 —Last day of classes for spring semester — Academic Campus
- 28-May 6 —Final examinations for spring semester — Academic Campus
- 29 —Last day of classes for spring semester — MCV Campus

May

- 2-6 —Final examinations for spring semester — MCV Campus
- 2-7 —Final examinations for spring semester — evening studies
- 2 —Final date for oral defense of graduate theses for May graduation
- 14 —Commencement day (includes August and December graduates)
- 16 —Summer sessions begin

June**23**

—Graduate Management Admissions Test

July**8**

—Last day for summer degree candidates to submit graduation applications to their advisors for August degrees

August**12**

—Summer sessions end

| | | | | | | |
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PART I—Virginia Commonwealth University

THE UNIVERSITY

Virginia Commonwealth University is an urban institution of higher education located in the heart of Richmond, Virginia. It is comprised of two campuses: the Medical College of Virginia Campus is located east of the financial, governmental, and shopping area of downtown Richmond; the Academic Campus is two miles west in a residential area that dates from the nineteenth century. This area is called the Fan District, so named because the streets separate from each other as they move westward. The Fan is bounded on the east by the Academic Campus on the west by the Boulevard, on which is located, among other things, the Virginia Museum of Fine Arts and the Virginia Historical Society.

Virginia Commonwealth University was created in 1968 by a merger of the Medical College of Virginia and Richmond Professional Institute. VCU traces its founding date to 1838, the year in which the older of the two institutions, the Medical College of Virginia, was created as the medical department of Hampden-Sydney College. This department became an independent institution in 1854. The Academic Campus was the former Richmond Professional Institute (RPI) which began in September 1917 as the Richmond School of Social Work and Public Health.

Today the total university enrollment is

more than 20,000. The university has four teaching hospitals, a School of Graduate Studies, and 12 academic schools (Allied Health Professions, Arts, Arts and Sciences, Basic Sciences, Business, Community Services, Dentistry, Education, Medicine, Nursing, Pharmacy, and Social Work) which offer 68 undergraduate programs, 62 master's degree programs, and 19 doctoral degrees. The university has a diverse student body. Persons of all ages pursue their education at VCU and come from every segment of society. Forty-four states and 27 foreign countries are represented in the university's student body.

The university is a member of the American Council on Education, the American Association of State Colleges and Universities, the Council of Graduate Schools in the United States, the Association of Urban Universities, Oak Ridge Associated Universities, the Association of University Evening Colleges, the National Association of College and University Summer Sessions, and the Association of Virginia Colleges. The university is also a member of the National Association of State Universities and Land Grant Colleges, a body consisting of 139 institutions whose memberships are based on being major graduate and research institutions. VCU is fully accredited by the Southern Association of Colleges and Schools, the regional ac-

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crediting agency for institutions of higher education in the Southern area of the United States.

THE MISSION OF VIRGINIA COMMONWEALTH UNIVERSITY¹

Virginia Commonwealth University is a comprehensive, urban, public university whose mission is to provide a fertile and stimulating environment for teaching, learning, research, and service; to promote the pursuit of knowledge; and to disseminate professional skills. Characteristic of comprehensive universities, its thrust is toward the education of citizens who need the solid values and proven strengths of the past as well as knowledge of future alternatives in dealing with society's increasingly urban-influenced problems, wherever these problems may exist. The university's mission includes the provision of:

A scholarly climate which will inspire in the student a lifelong commitment to learning and service; which will develop in the student competence and motivation to work toward the realization of individual and community potential; and which will set for the student an example of excellence.

An environment of educational excellence which values diversity and enables faculty to pursue their work in accordance with the highest standards and to serve as exemplary role models.

Educational services for the adjacent urban community through flexible scheduling and for adults and professionals in adjacent regions through continuing education programs.

Educational services away from the metropolis for selected programs so that graduates are prepared to serve the commonwealth in diverse locales.

Research and educational activities in all disciplines to develop and communicate new knowledge, to improve the quality of life, and to promote the best use and general understanding of human and environmental resources.

The recognition of the imaginative power of the arts and humanities in reflecting the problems and aspirations of

society; and the providing of opportunities to emphasize the value of the arts and humanities for oneself and for society through public exhibitions and performances.

Comprehensive health care services which meet patient and community needs and which provide an optimal environment both for education and training of health care professionals and for innovative studies on improving health care delivery.

The establishment of the university as a planning and resource center which, drawing upon the unique resources of a major urban area, is devoted to the solution of problems confronting Virginia's communities; to the identification of emerging social needs; and to the planning required for orderly future growth and development.

SCHOOL OF GRADUATE STUDIES

Administrative Officers

JOHN J. SALLEY, D.D.S., Ph.D., D.Sc.
Vice-President for Research and
Dean of Graduate Studies

JOHN H. McGRATH, B.A., M.A., Ph.D.
Associate Dean of Graduate Studies

GEORGE C. CANAVOS, B.S., M.S., Ph.D.
Assistant Dean of Graduate Studies

WILLIAM L. DEWEY, B.S., M.S., Ph.D.
Assistant Dean of Graduate Studies

WILLIAM R. STEWART, B.F.A., M.Ed., Ed.D.
Assistant Dean of Graduate Studies

Graduate programs are administered by the individual departments and schools throughout the university with assistance from the School of Graduate Studies. Major coordination of the various degree programs is performed by the University Graduate Council, which is comprised of two elected faculty members from each of the 12 schools as well as two representatives elected from the academic council. Graduate student members from each of the two campuses also have membership on the council, which is chaired by the dean of graduate studies. Members of the University Graduate Council for 1980-81 are:

Moustafa Abdelsamad—Business
Diane Bernard—Social Work
Kenneth Campbell—Arts
Sam Craver—Education
Beauty Crummette—Nursing

¹As approved by the Board of Visitors, March 17, 1977.

Marilyn Erickson—Arts and Sciences
 Curtis Hall—Deans' Representative
 Leonard Hippchen—Community and Public Affairs
 Alan Kaplan—Medicine
 Peter Mamunes—Medicine
 Robert Modrow—Allied Health Professions
 Dika Newlin—Arts
 Kent Palcanis—Dentistry
 Otto Payton—Allied Health Professions
 David Pentico—Business
 Alice Pieper—Education
 John Povlishock—Basic Sciences
 Pratip Raychowdhury—Arts and Sciences
 Alvin Schexnider—Community and Public Affairs
 Margaret Spaulding—Nursing
 James Stubbins—Pharmacy
 Glenn Van Tuyle—Basic Sciences
 Daniel Watts—Deans' Representative
 Joseph Witteman—Dentistry
 Claire Wompierski—Social Work
 John Wood—Pharmacy
 Laura Goggin—Student Member
 Belinda Hayes—Student Member
 The following graduate degree programs are offered at the university:

Doctor of Philosophy

Anatomy
 Art History
 Biochemistry
 Biophysics
 Biostatistics
 * Business Administration
 Chemistry
 * Health Services Organization and Research
 Human Genetics
 Microbiology
 Pathology
 Pharmaceutical Chemistry
 Pharmacology
 Pharmacy and Pharmaceutics
 Physiology
 Psychology
 Clinical
 Counseling
 General
 Social Policy and Social Work
 * Urban Services
 * Doctorate in Public Administration

Master of Accountancy

Master of Art Education

Master of Arts

* Art History
 Museology
 Economics
 English/English Education

Master of Business Administration

Master of Education

Administration and Supervision
 Adult Education
 Counselor Education
 Distributive Education
 Elementary Education
 Mathematics Education
 Reading
 Special Education
 Emotionally Disturbed
 Learning Disabilities
 Mentally Retarded
 * Early Childhood Handicapped

Master of Fine Arts

Crafts
 Ceramics
 Furniture Design
 Glassworking
 Jewelry or Metalworking
 Textiles
 * Creative Writing
 Design
 Interior Environments
 Photography/Film
 Visual Communications
 Painting and Printmaking
 Sculpture
 Theatre
 Acting
 Costume Design
 Directing
 Dramaturgy
 Stage Design/Technical Theatre
 Theatre Education

Master of Health Administration

Master of Interdisciplinary Studies

Master of Music

Applied Music, including synthesizer
 Church Music
 Composition—Theory
 Conducting
 Education
 Music History and Literature
 Piano Pedagogy

Master of Music Education

Master of Public Administration

Master of Science

Administration of Justice
 Anatomy
 Biochemistry
 Biology
 Biophysics
 Biostatistics
 Business
 Accounting

*To begin fall 1982

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Business Education
Economics
Finance
Information Systems
International Business
Management
Marketing
Personnel and Industrial Relations
Quantitative Techniques
Real Estate and Urban Land Development
Risk Management and Insurance
Taxation
Chemistry
Gerontology
Human Genetics
Mass Communications
Mathematical Sciences
Medical Technology
Microbiology
Nurse Anesthesia
Nursing
 Community Health Nursing
 Community Health Nursing—Family Nurse Practitioner
 Maternal and Infant Nursing
 Maternal and Infant Nursing—Obstetric-Gynecologic Nurse Practitioner
 Medical-Surgical Nursing
 Nursing of Children
 Nursing of Children—Pediatric Nurse Practitioner
 Psychiatric-Mental Health
Occupational Therapy
Pathology
Pharmaceutical Chemistry
Pharmacology
Pharmacy and Pharmaceutics
Physical Education
Physical Therapy
Physiology
Psychology
 Clinical
 Counseling
 General
Recreation
Rehabilitation Counseling
Sociology
Master of Social Work
Master of Taxation
Master of Urban and Regional Planning

Post-masters degrees in several fields of education are available through a cooperative arrangement with Virginia Polytechnic Institute and State University. These include CAGS and Ed.D. in the following areas: administration and supervision, adult and continuing education, vocational technical education, counseling and student personnel work, and community college education.

OFF-CAMPUS GRADUATE INSTRUCTION

As a comprehensive educational institution, the university is dedicated to serving the needs of Virginians by providing off-campus graduate credit instruction at various locations throughout the state. Such instruction, encompassing many graduate courses, is offered in response to an expression of need from various locales. The majority of off-campus instruction, however, is offered within the region of the Capital Consortium for Continuing Higher Education, which consists of the Richmond-Petersburg area and surrounding counties (state planning districts 15 and 19).

Off-campus instruction features the same course work that is available on campus, and off-campus courses are fully degree applicable within the normal admission standards of the various schools of the university.

For additional information on off-campus credit instruction, write or call the Coordinator for Off-Campus Credit Instruction, Division of Continuing Studies and Public Service, 901 West Franklin Street, Room 105, Richmond, VA 23284, (804) 257-6032.

ACADEMIC RESOURCES

Libraries

The University Libraries consist of the James Branch Cabell Library on the Academic Campus and the Tompkins-McCaw Library on the MCV Campus. Both libraries have expanded space and service through recent major construction projects and now provide a combined capacity of 1,360,000 volumes and seating for over 2,450.

The James Branch Cabell Library on the Academic Campus is open to all students and faculty of the university. The hours are 7:30 am to midnight, Monday through Friday, 9 am to 9 pm Saturday, and 1 pm to midnight Sunday. In addition to growing reference and research collections of printed materials, the library supports specialized curricular and research needs with substantial microform holdings, music scores, disc recordings and cassettes, media materials in the University Curriculum Laboratory, and assistance with film and television production in the audio visual

department. The library is also a partial depository for United States and Virginia government publications. Reference staff offer computer assisted literature searches to graduate students and faculty, a course in library resources, and bibliographic instruction for classes at the request of faculty. The staffs of the collection development department and the serials department welcome suggestions from graduate students and faculty for book purchases and journal subscriptions. The serials department maintains current and back issues of journals as well as reserve books and articles. Graduate students may obtain a browsing pass to the closed stack current periodicals/reserves area by applying at the serials office. Reading tables and lounge chairs as well as a photo copy machine are available in this area. The Cabell Library also provides materials lockers on the fourth floor for graduate students and faculty. Other services include group study rooms, typewriter rooms, and a study room containing equipment to aid the visually handicapped.

The Tompkins-McCaw Library, located on the MCV Campus, contains a major research collection that is particularly strong in the health sciences. It is open from 8 am to 11 pm five days a week, with shorter weekend hours. Complete sets of all major indices in the biomedical and health science fields are also part of the reference collection. Trained search analysts are available to help patrons obtain computer-produced bibliographies on specific biomedical and health-related topics.

Of particular note is the reference service of the libraries. Staff members welcome and encourage patrons to ask questions about the difficult-to-find materials which may be needed to complete research projects successfully.

Some professional collections are housed in individual schools. Students should consult department chairmen for information concerning such collections.

In addition to its own collections, the university is an active participant in the inter-library loan service and can obtain materials readily from other colleges and universities in Virginia and the Library of Congress. The Virginia State Library and the main branch of the Richmond Public

Library are both within walking distance of the university and between these two institutions students gain access to an additional one million volumes.

Research

While Virginia Commonwealth University is one of the leaders in teaching among the institutions of higher education in the state, it is also an institution which commits a significant portion of its resources to research and scholarly activities. VCU is fully committed to the proposition that a broad-based program of research investigations enhances the teaching mission of the university while, at the same time, it improves the quality of services provided to the community. During the fiscal year ending on June 30, 1980, the university received over \$27.5 million in sponsored program support from a variety of federal agencies, private organizations, philanthropy, and endowment income. The extensive and diverse nature of the university's research programs are directly related to the excellence of the faculty on both campuses. The prospective graduate student can anticipate working in a lively intellectual environment. Many faculty of the university who are directly involved in graduate education programs are recognized nationally and internationally in their fields of endeavor.

Computing and Information Resources

The Department of Academic Computing provides staff support and facilities for faculty, staff, and students of the university in using computers for instruction, research, and certain community service activities. Individual consultation is available as are scheduled short courses and "guest lecturer" appearances in classes. Information is provided to users by a Users Guide, Miniguides, and a newsletter as well as other more permanent forms of documentation.

Computing hardware available for Academic Computing use includes a dual IBM-370 Model 168 multi-processor system, an H-P3000, and an XDS Sigma-6. In addition to the usual terminal devices, graphics output and optical scanner input are available.

Academic computing is part of the Department of Computing and Information

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Resources which includes administrative data processing and the administration of the Consolidated Computer Center.

The computing resources are widely used in the academic program of the university and are accessible to students at all levels. The computers operate 24 hours a day throughout the year with access areas open for use approximately 12 hours a day during the week and on weekends.

Statistical Consultation Resources

Professional statisticians who are faculty members in biostatistics, mathematical sciences, business, and other departments or schools hold membership in the university's Institute of Statistics, an organization whose objectives include cooperative efforts in consultative assistance in statistical design and analysis of university research projects in all fields, as well as in teaching programs in statistics, and pure and applied research in statistical theory and methodology.

VCU's Institute of Statistics has 22 members from the faculty and 12 associate members from the faculty and staff.

GRADUATE TUITION AND STUDENT FEES

Tuition and student fees shown are for 1980-81 and are subject to change.

Graduate Tuition

| | |
|--------------------------------|-----------------------|
| State Resident: | |
| Full-time | \$980 |
| Part-time | \$ 55 per credit hour |
| Out of State: | |
| Full-time | \$1,440 |
| Part-time | \$ 80 per credit hour |
| Summer Session—Academic | |
| Campus | |
| State Resident: | |
| Full-time | \$465 |
| Part-time | \$ 39 per credit hour |
| Out of State: | |
| Full-time | \$565 |
| Part-time | \$ 48 per credit hour |
| Summer Session—Health Sciences | |
| Campus | |
| State Resident: | |
| Full-time | \$465 |
| Part-time | \$ 39 per credit hour |

| | |
|--------------------|-----------------------|
| Out of State: | |
| Full-time | \$565 |
| Part-time | \$ 48 per credit hour |
| Patient Counseling | |
| Resident | \$140 |
| Nonresident | \$210 |

Other Fees

General—All Students

| | |
|----------------------------------|------|
| Application Fee (non-refundable) | \$10 |
| Late Registration Fee | \$10 |
| Diploma Fee | \$16 |
| Health Fee | \$86 |

Campus Fees

School of the Arts

| | |
|-------------------|------|
| Comprehensive Fee | |
| Full-time | \$80 |
| Part-time | \$40 |

Music Majors

| | |
|-----------------|----------------------|
| Full-time | \$210 |
| Part-time | \$106 |
| Full-time | \$ 12 |
| Part-time | \$ 1 per credit hour |

Summer

| | |
|-----------------|---------------------|
| Full-time | \$6 |
| Part-time | \$1 per credit hour |

Academic Campus—Activities

| | |
|-----------------|----------------------|
| Full-time | \$12 |
| Part-time | \$ 1 per credit hour |

Academic Campus—Consolidated

| | |
|-----------------|----------------------|
| Full-time | \$186 |
| Part-time | \$ 8 per credit hour |

| | |
|-----------------------|----------------------|
| Evening College | \$ 4 per credit hour |
|-----------------------|----------------------|

Summer

| | |
|-----------------|----------------------|
| Full-time | \$45 |
| Part-time | \$ 4 per credit hour |

MCV Campus Consolidated

| | |
|-----------------|----------------------|
| Full-time | \$186 |
| Part-time | \$ 8 per credit hour |

Summer

| | |
|-----------------|----------------------|
| Full-time | \$45 |
| Part-time | \$ 4 per credit hour |

| | |
|--------------------------|------|
| MCV Government Fee | \$22 |
|--------------------------|------|

| | |
|------------------|--------------------|
| Room Plans | \$1,010 to \$1,400 |
| Meal Plans | \$ 850 to \$ 880 |

Part-Time and Overload Graduate Study Fees

Graduate students registered for nine or more semester hours will be charged full tuition and fees. The part-time tuition rate will be paid by students registered for less than nine semester hours. Students registering for more than the maximum 16 hour load will be required to pay per credit hour fees for all hours over 16.

State Residence

The law affecting residence in Virginia is as follows: "No person shall be entitled to the admission privileges, or the reduced tuition charges, or any other privileges accorded only to domiciliaries, residents or citizens of Virginia, in the state institutions of higher learning unless such person is and has been domiciled in Virginia for a period of at least one year prior to the commencement of the term, semester, or quarter for which any such privilege or reduced tuition charge is sought, provided that the governing board of such institutions may set up additional requirements for admitting students." Student applications for Virginia residency are processed through the University Registrar's Office on the appropriate campus.

Refunds and Rebates

Full- or part-time students who are admitted to a graduate program and who withdraw in good standing shall be entitled to a refund of a portion of tuition, room, and board fees for the semester in which they are currently enrolled. All other fees are non-refundable.

Request for Refund

A request for a refund shall be made in writing to the dean of each school. Exceptions to the refund policy are to be made by the associate vice-president for academic affairs. The following policy governs the refund of tuition, room, board, infirmary, and applicable fees.

Tuition, Room, and Refundable Fees

1. A student who fails to register, is denied permission to register or his/her registration is canceled prior to the first day of classes will be entitled to a full refund of tuition, if paid in advance. Tuition deposits are non-refundable.

Room and applicable fees will be refunded in full, if paid in advance.

2. A student will be entitled to a refund of 50 percent of his/her tuition, room, and applicable fees upon withdrawal from the university during the first 28 consecutive calendar days, beginning with the first day of the semester, i.e. August 27 for the fall semester on the MCV Campus and August 31 for the fall semester on the Academic Campus.

A full-time student reducing his/her academic status to part-time or a part-time student reducing his/her academic course load during the first 28 consecutive calendar days, beginning with the first day of the semester will be entitled to a refund of 50 percent.

NO AMOUNT WILL BE REFUNDED FOR WITHDRAWAL AFTER THE 28th CONSECUTIVE CALENDAR DAY OF THE SEMESTER.

Board Plan Fees

A full refund will be made if withdrawal from the board plan is made prior to the first official board plan day. However, if a student withdraws from the university he/she will be granted a refund based on a weekly pro-rate throughout the term, less a \$50 non-refundable charge.

3. Students entering involuntary military service of the United States will be granted a refund on a pro-rated basis.
4. A student will not be entitled to a refund of room fees if he voluntarily withdraws from the university residence halls but remains registered for any course or courses at the university unless clearance is granted by the associate vice-president for academic affairs.

The actual date of withdrawal will be certified by the Office of the University Registrar; and refund, when appropriate, will be computed based on that certified date.

Delinquent Accounts

The university will not issue a degree, transcript, or grade reports to any student who has not paid all charges in full. Students whose accounts are not paid in full may not

be admitted to final examinations at the end of semesters.

STUDENT FINANCIAL ASSISTANCE

The university operates two financial aid offices to provide financial advising, general and specific information, and application forms. Students are required to use the appropriate campus office to resolve any financial problem: 327 West Main Street (Flowers Building), Richmond, VA 23284 for the Academic Campus; or Box 244, MCV Station (Bear Hall), Richmond, VA 23298 for the MCV Campus.

Guaranteed Student Loan Program

Loans from this program are available to all students who may or may not be eligible for other forms of financial assistance. Financial need is not a criteria for determining eligibility.

Graduate Students may borrow up to \$5,000 per year for full-time study. Half-time students may borrow up to \$2,500 per year. These loans are available to all students who are U.S. citizens or permanent residents, are admitted or are enrolled in good academic standing, and are not in default for prior loans. Loans are interest free while the student is enrolled at least half-time. Repayment is not required until six months after the student graduates or terminates attendance. Students may take as long as ten years to repay the principal at a nine percent annual interest rate. Students should contact their local bank for information about this loan program. For those students who cannot acquire a loan from their bank, the university can assist the student in the acquisition of this loan from the Virginia Educational Loan Authority (VELA). Application forms for these loans are available in the Financial Aid Offices.

Campus Based Aid Programs

Awards from these programs are made by the Financial Aid Office using the financial aid form completed by the student. All awards are based upon the student's financial need.

National Direct Student Loans

This joint federal and university program provides low interest loans for students. The

awards range from \$200 to \$5,000 per year. The repayment period commences after graduation or withdrawal from the university. Loans may be repaid over a ten year period at four percent interest. Students are reminded that prior to graduation, or at their withdrawal from the university, it is mandatory that they receive an "exit interview," which is conducted by the Office of Student Aid Accounting, 327 West Main Street (804) 786-2301.

College Work Study Program

This joint federal and university program permits students to work for the university or a local non-profit agency. Students receiving this award are placed by the Financial Aid Office.

Fellowships, Assistantships, and Stipends

The university awards fellowships, assistantships, or other stipends, including a variety of special health professions and nursing awards, to qualifying students. These awards may be based on financial need or other selection criteria. For more information, inquiries should be made directly to the school or department in which the student intends to enroll.

Resident Assistants

Part-time employment as part of the University residence education program is available to qualified graduate students. In general, 20 hours of service per week is required and enrollment in the course Methods for Resident Hall Assistants is expected. Compensation for employment is room and board, and reimbursement for limited telephone service. Interested persons should contact the residence education office directly. A personal interview will be required. Selection is usually completed by mid-March.

VETERAN SERVICES

GI Bill Education Training

Veterans who served on active duty for more than 180 continuous days, any part of which occurred after January 31, 1955, but before January 1, 1977, and who (a) were released under conditions other than dishonorable, (b) were discharged for a service-connected disability, or (c) continue

on active duty are eligible under the Veterans Readjustment Benefits Act of 1966, as amended. Also eligible are those individuals who contracted with the Armed Forces and were enlisted in or assigned to a reserve unit prior to January 1, 1977, and who as a result of this enlistment or assignment, served on active duty for more than 180 days, any part of which began within 12 months after January 1, 1977 and who were discharged from active duty under conditions other than dishonorable.

Contributory Educational Assistance Program (For Veterans and Servicepersons Entering Active Duty on or after January 1, 1977)

Veterans who served and servicepersons currently serving who (a) first entered active duty after December 31, 1976, and (b) were released under conditions other than dishonorable or continue on active duty but have completed their first obligated period of service (or six years of active duty, whichever comes first), and (c) have satisfactorily contributed to the program. (Satisfactory contribution consists of the monthly deduction of \$50 to \$75 from military pay, up to a maximum of \$2,700, for deposit in the special training fund.)

For further information please contact the Office of Veteran Services in the Flowers Building, 327 West Main Street, Richmond, VA 23284, (804) 786-2371.

V.A. Education Benefits

To receive educational benefits, the veteran student must comply with the following procedures:

1. Veteran students must request certification each semester and each summer session from the Office of Veteran Services located at 327 West Main Street, room 102.
2. Veteran students withdrawing from VCU or dropping a course must notify the Office of the University Registrar and the Office of Veteran Services.
3. Benefits will not be awarded for courses taken on an audit basis. Also, if the veteran student is repeating a course or taking a course with no credits, this must be brought to the at-

tention of the Office of Veteran Services.

4. All courses taken must apply to a degree program. These courses may include elective courses and prerequisite courses as well as the required courses.
5. It is the veteran student's responsibility to see that the transcripts are evaluated to determine the number of transfer credits accepted by the university and to have this information submitted to the Office of Veteran Services for transmittal to the V.A. Regional Office.

ADMISSIONS

The university is fully committed to equal opportunity in its graduate education programs and thus considers all applicants without regard to race, creed, sex, or national origin. Likewise, while Virginia Commonwealth University is a state-aided institution, applications are not limited to those who are residents of Virginia; however, priority is extended to applicants in some programs who are legal residents of the state. Many graduate courses are offered during the evening and weekend in order to serve the varied needs of diverse student groups.

Admission Requirements

General admission requirements for graduate study in the university are as follows: (1) graduation from an accredited college or university or its equivalent; (2) except in very unusual cases, a minimum undergraduate GPA of 2.7 out of 4.0 overall or in the last two years of undergraduate work; (3) all graduate programs at VCU must consider in their admissions the scores from a standardized test commonly used and deemed appropriate for the particular discipline. Applicants must submit a satisfactory score on the entrance examination required by the program to which admission is sought; and (4) such additional requirements as may be established by individual programs and schools. These may include personal interviews, auditions, submission of a portfolio, or other materials.

Types of Admissions

Students may be admitted to graduate

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studies under one of the following classifications:

1. Candidate or prospective candidate for degree: Students who meet all requirements for admission to a degree program, and who have been recommended by the department or school in which they propose to study, may be admitted as candidates or prospective candidates for a graduate degree.
2. Provisional status: Students who have not fully met the requirements of the program or school to which admission is sought may be granted admission with a provisional status as prospective candidates for a degree. Such students must have as their initial objective the removal of provisional conditions to achieve advancement to regular status. A provisional student who does not meet the necessary continuance standards will be dropped from the degree program. Provisional admission is a probationary status; the requirements for advancement to regular status are specified in the student's provisional admission letter.
3. Non-degree status: Students without advanced degree objectives may be admitted to non-degree or special graduate status. (Except in the School of Business where only a few non-degree seeking students may be allowed to register as special students with prior written permission from the director of graduate studies in business.) This status serves two groups of students:
 - a. Those students interested only in enrolling in graduate courses for self-improvement.
 - b. Those students interested primarily in certification credit without degree objectives either preceding or following a graduate degree program.

A student applying for regular candidate admission status after taking courses as a non-degree seeking (special) student will not be allowed to apply more than six credits earned as a special student toward the degree if accepted to a program. (Credit earned while the student is in a non-degree seeking status cannot be applied toward a master's degree in the School of Business.) Satisfactory performance as a non-degree seeking

(special) student does not assure admission as a regular degree seeking student. There is no limit to the number of hours a non-degree seeking (special) student can take in pursuing self-improvement.

Application

Application forms and materials may be obtained from the School of Graduate Studies, Virginia Commonwealth University, Box 568, MCV Station, Richmond, Virginia 23298; or from the department or school to which admission is sought and should be returned for processing to the office listed on those forms. There is a \$10 non-refundable application fee which must accompany the application. Some schools have processing fees as indicated in Section II of this bulletin.

An application cannot be given final consideration until all required credentials have been received. These include the following: (1) two official transcripts, or the equivalent, from each college or university previously attended, (2) three letters of recommendation, and (3) report of scores achieved on the Graduate Record Examination or other entrance examinations required by the particular department or school. The credentials above should be considered as minimal. Section II of this bulletin includes detailed information concerning admission requirements to specific programs and schools.

Entrance Examinations

To supplement other evidence of the student's preparation for graduate work, the Graduate Council has stated that all programs at VCU must consider in their admissions the scores from a standardized test commonly used and deemed appropriate for a given discipline. Common examinations used at VCU are the Graduate Record Examination (GRE), the Graduate Management Admissions Test (GMAT), the Law School Admissions Test (LSAT) and the Miller Analogies Test (MAT). These examinations will not replace other records of achievement as a basis for admission to the Graduate School, but they will offer additional evidence concerning the qualifications of students desiring to undertake graduate work.

Application Procedures

Each completed application should be submitted to the office indicated on the application form. The completed application and supporting materials are reviewed by the faculty of the program and final notification of acceptance is made by the appropriate university office. Admission to a graduate program may be contingent upon the successful completion of undergraduate courses, degree, or other prerequisites that may be specified by the program or school. Applications and supporting materials should be received within the deadlines specified throughout this bulletin. Late applications will be considered when possible, but may require provisional admission.

INTERNATIONAL STUDENTS

The university subscribes to the intent and purpose of the Mutual Educational and Cultural Act, the regulations of which permit international students to become a part of the university community until their objectives are met.

In order for the university to qualify with the United States government as a place of training for international students, the university is obligated to determine: (1) that applicants have the necessary ability and educational backgrounds to benefit from their experiences at this institution; (2) that their proficiency in English is sufficient to carry a full program of graduate study through submission of a satisfactory score on the Test of English as a Foreign Language (TOEFL); and (3) that they have all the funds necessary for their expenses for the entire period of their stay without resorting to employment while in the United States. The university normally has no financial resources for foreign students.

Foreign students who do not hold permanent resident visas cannot qualify as residents of Virginia and must pay the non-resident tuition charges. It is required that all tuition and other university fees be paid prior to, but no later than, the semester registration period in which the student wishes to enroll.

Once a foreign national has been admitted, he or she is treated as any other student except for the immigration and naturalization rules and regulations which take

precedence over university rules. The university cannot register a foreign national until the Immigration and Naturalization Service officially gives its approval.

The university has a foreign student advisor who meets with all foreign students after their adjustment to the university, and prepares the necessary forms needed by foreign nationals to maintain correct visa status with the United States government.

Foreign students residing outside the United States should allow six months between application for admission and actual matriculation at the university.

GENERAL ACADEMIC REGULATIONS

Exceptions to graduate policies must be approved by the University Graduate Council.

Advising Program

Students are responsible for the proper completion of their academic programs. They should be familiar with the university bulletin, including general academic regulations presented by individual schools and departments. The offices of the deans and department chairmen, in cooperation with the advisors and faculty, endeavor to follow each student's academic progress, and students are encouraged to seek counsel whenever there is a need. If an advisor is unable to resolve a problem satisfactorily, he or she will refer the student for further advice as is deemed appropriate and necessary. In order to aid advising, each student has the responsibility to keep a current mailing address on file with the university registrar, as well as the school and department in which he or she is enrolled.

Student Load

Student load is the total number of credits for which a student is enrolled in any semester. The student is classified as "full-time" during any semester in which he is enrolled for nine or more credits. The student is classified as "part-time" during any semester in which he is enrolled for eight credits or less.

The degree-seeking student may be either a "full-time" or "part-time" student.

The maximum number of credits for

which a student may enroll in any semester without special permission is 16. More than 16 credits is an overload. Permission to enroll for more than 16 credits will be granted upon the written permission of the department chairman for degree seeking students and the written permission of the dean of the School of Graduate Studies.

Attendance and Continuance Policies

Once admitted, a graduate student is expected to enroll each semester until the degree is awarded. Graduate students who have been admitted to candidacy for a degree, or who have completed course requirements for a degree, must register for a minimum of one semester hour each semester until the degree is awarded. Individual schools may require more than one hour as part of their continuous registration policy. Instructors are responsible for clearly informing the student in writing of the attendance requirement for each course and the consequences of poor attendance. Students must abide by the requirements as announced in each separate class even though the requirements may vary widely among courses.

Cancellation of Registration

A cancellation of registration must be made prior to the first day of classes by notifying in writing the Office of the University Registrar. Refunds will be issued in accordance with procedures set forth under Refunds in the Expenses and Financial Aid section of this bulletin.

Withdrawal from the University

To officially withdraw from the university, a student must submit a complete Official Withdrawal Form to the Office of the University Registrar before the end of the eighth week of classes. The Official Withdrawal Form is obtained from the Office of the University Registrar. Failure to complete this form may result in the assignment of failing grades in all or some of the courses.

The student's permanent academic record will indicate a grade of "Withdrawn" (W) for all courses in which the student was enrolled.

HEALTH-RELATED WITHDRAWALS

While most graduate students are expected

to work toward completion of their degrees without interruption, health-related problems may necessitate withdrawal from the university.

1. Health-related withdrawals must be approved in writing by the dean of the appropriate school.
2. The student must furnish the Office of the Dean a written request for permission to withdraw for health reasons together with a statement from his/her physician indicating the nature and severity of the condition, when the student should stop attending classes and the estimated date of return to school.
3. In the event that the student's health problem poses a danger to the student, to patients, or to others with whom the student may come in contact and the student is unable or refuses to initiate steps to withdraw as stated in Item 2 above, administrative withdrawal of the student may be made by the dean of the school upon consultation with the appropriate faculty and a qualified physician.
4. If it is the decision of the dean to grant the withdrawal, the student will receive written notice stipulating conditions and time limits.
5. All tuition refunds or adjustments will be made in accord with university policy as stated in the *VCU Graduate Bulletin*.
6. Because curricular and course content changes may occur and a student's progress toward a degree may be adversely affected due to an extended absence, specific time periods may be imposed by individual schools with respect to the length of time allowed for absence from school. If there is a delay in return beyond the allotted time period without written consent of the Office of the Dean, the student will petition for return with advanced standing. The petition will be processed according to regularly established procedures of the school.
7. Prior to return to school, the student must submit to the dean a statement from his/her physician. This statement should document that the condition which necessitated the withdrawal has been corrected to a point where the stu-

dent can successfully complete all curriculum requirements with reasonable accommodation, including classroom, laboratory, clinical, and field work experiences.

8. After the decision to readmit the student is made, the dean will inform the student in writing when he/she can resume class attendance. The student will be required to meet curricular requirements as specified by the dean.

Change of Discipline

Students wishing to change to a graduate discipline outside of their present school should obtain appropriate new application forms from the School of Graduate Studies. Generally they will have to submit a new application to the new program with all material required of a new applicant. The dean of graduate studies will work with the administrators of the two disciplines to facilitate the admission process for students who are eligible.

Transfer Credit

Generally, a maximum of one third of the hours required for a master's degree may be transferred and applied toward that degree. A maximum of 25 percent of course work other than research applied toward all doctoral programs at VCU may be transferred from another institution. Acceptance of transfer credit is made at the school level. (Various schools may have more stringent requirements.)

All transfer work must be at the "A" or "B" grade level from an accredited institution or university. "Credit" or "pass" grades can be accepted only if approved by petitioning the School Graduate Advisory Committee or equivalent. The student must be in good standing both at Virginia Commonwealth University and the institution from which the credits were earned (some schools require full admission to both institutions). The university will not accept for transfer course credit which does not apply to a graduate degree at the offering institution.

CHANGE IN REGISTRATION

Once a student has registered for classes,

change in that registration may be made only during the following periods:

During Add/Drop Period

During the first week of classes the student may either add or drop courses from his schedule of classes. Changes in registration will be allowed during the first week of classes according to the following procedure:

1. Complete the Add/Drop Form at the designated area and obtain a copy of the form for record purposes. Courses dropped during the add/drop period do not become part of the student's permanent academic record.
2. A change from "Audit" to "Credit" or "Credit" to "Audit" may be affected only during the add/drop period.

After Add/Drop Period

After a course has met for the first week that course may not be added by a student. Courses may not be dropped after the eighth week of classes. See current bulletin for exact calendar dates. Courses may be dropped only in accordance with the following procedures:

1. After the first week of classes and until the end of the eighth week of classes, drop forms may be obtained only in the Office of the University Registrar and must be filed with that office before the drop is official. Students should retain a copy of the drop form for record purposes.
2. Courses dropped after the first week of classes and before the end of the eighth week of classes will become a part of the student's permanent academic record and will indicate a mark of "withdrawal" (W).
3. If a student fails to complete a drop form when ceasing to attend a class, this may result in the assignment of a failing grade in the course.

DEGREE REQUIREMENTS

The minimum course requirements, rules of admission to degree candidacy, language requirements, theses or dissertation requirements, comprehensive examinations, transfer of credits, and the like, are spelled

out for each program in Section II of this bulletin. Many schools, programs, and departments print special brochures, student manuals, and program guides which can be requested from the appropriate dean or program director.

General regulations applying to thesis/dissertation committees and competency examinations are as follows:

A graduate advisory committee shall be appointed for each candidate for a master's degree from whom there is a requirement to produce a thesis or its equivalent in the form of a research project, performance, exhibit, or other production. The committee will coordinate and supervise the preparation of the thesis or its equivalent. The committee shall have a minimum of three faculty, one of whom should be from a department, program, or area of specialization other than that in which the candidate is enrolled. The chairman of the committee will be designated as the candidate's faculty advisor. Master's candidates for whom a thesis or its equivalent is not required will have an advisor, but not necessarily a committee, appointed by mechanisms determined by the department.

A graduate advisory committee shall be appointed for each doctoral candidate. The committee will have a minimum of five faculty members, including a chairman, who will serve as the candidate's faculty advisor, and at least one but preferably two members from other than the department of the advisor.

Upon satisfactory completion of all program requirements for admission to candidacy, the doctoral matriculant will take written and/or oral preliminary candidacy examinations administered by the student's major department or school. Successful completion of the examinations shall entitle the student to advance to doctoral degree candidacy status. The candidate is then allowed to proceed with the research and preparation of the dissertation and any other doctoral degree requirements designated by the granting department.

In the event of failure the student may be permitted to retake one time the preliminary candidacy examinations upon approval of the appropriate graduate committee.

Candidates for degrees are eligible for

graduation upon completion of all requirements in effect at the time of the first registration, provided the requirements are met within the time limit specified by the school or program. Students failing to satisfy the time requirement and who are readmitted to a program shall satisfy requirements in effect at the time of reacceptance into the degree program.

All degrees are conferred by the VCU Board of Visitors upon recommendation of the faculty. Degrees are granted at the close of the semester or summer session in which the students complete their work. Degrees will not be granted unless all financial obligations have been resolved with the university's accounting office. No degree will be conferred unless the student makes a formal application for graduation. Application forms may be obtained from the Office of the University Registrar. Some schools require additional forms which must be cleared through the dean's office of the school in question.

Graduation applications must be submitted by the student to his advisor or dean no later than the dates indicated in the calendars appearing in the front of this bulletin. A student should schedule a conference with his or her advisor well ahead of the deadline and should note that the application requires, in addition, the approval of the department chairman, or the school director of graduate studies, and the dean. A student may not use the same credits for two master's degrees.

A minimum of one-half of the required courses in the student's program will be those designated as exclusively for graduate students.

Grade-Point Average and Credits Required for Graduation

Because grade-point average requirements vary from department to department, students should consult their advisors to determine the average that they must present for graduation.

The total number of semester credits required for graduation depends upon the student's major. Specific information may be found under the several degree program descriptions beginning on page 21.

The grade-point average, reflecting

semester and/or cumulative work as specified by each school, is computed by dividing the number of grade points earned by the number of semester hours attempted for which grades of "A" through "F" or "WF" have been assigned.

Time Limit for Completion of Degree Requirements

The time limit for a graduate degree will not extend beyond a period of seven years, which, at the master's level includes five years with two possible one year extensions.

All work applied toward the degree, including that transferred from other institutions, shall not be older than seven years at the time the master's degree is awarded.

GRADING SYSTEM

Grade Reports

An official university grade report will be mailed each semester and at the end of the Summer Sessions to the student's mailing address as designated on the registration form. Students may change their official address by submitting a written request to the Office of the University Registrar.

Repeated Courses

Semester credits attempted and grade points earned for all attempts are included in computing the cumulative grade-point average. Because some schools do not allow students to repeat courses, students planning to do so must first consult with their advisor, graduate director, or department chairman.

Grade Review Procedure

If a student thinks that a grade is inaccurate, the situation should be discussed with the faculty member. This will allow the faculty member to explain how the final grade was determined and, if an error is detected, to submit a change of grade.

If the student still thinks that the grade was unfairly assigned, the student should submit a written appeal. Upon receipt of the written appeal, the department chairman shall provide the student with a copy and explanation of the Grade Review Procedure, and shall ensure that the requirements of the Grade Review Procedure have been met. In cases concerning grades awarded for the fall semester, the written appeal must be submit-

ted to the department chairman no later than 30 calendar days after the beginning of the following spring semester. In cases concerning grades awarded for the spring semester or summer sessions, the written appeal must be submitted no later than 30 calendar days after the beginning of the following fall semester.

GRADES

Work quality is measured by the four-point grade system with the following equivalents:

| Grade Symbol and meaning | Grade Point Value per Semester Credit |
|---|--|
| A | 4.0 |
| B | 3.0 |
| C | 2.0 |
| D | 1.0 |
| F | 0.0 |
| I = Incomplete (temporary mark) | — |
| P = Pass | — |
| AU = Audit | — |
| W = Withdrawn | 0.0 |
| H = Honors | — |
| PR = Progress | — |
| CO = Continued | — |
| NC = Grade assigned for continuing enrollment | — |
| NG = Administrative grade assigned when no grade submitted by the instructor. | — |
| CR = Grade assigned for successful completion of credit by examination | — |

The above scale is known as the four-point grading system since four is the highest grade point assigned.

The number of grade points earned is computed by multiplying the grade-point value for the letter grade by the number of semester credits for the course. As an example, a student receiving an "A" (i.e. 4 grade points) in a 3 credit course receives 12 grade points.

Grades noted by "—" for grade-point value are not considered in the computation of hours attempted, hours earned, grade points earned, or grade-point average.

Grade-Point Average

The grade-point average (GPA) is computed by dividing the number of grade points earned at VCU by the number of credits attempted at VCU. The grades of accepted transfer courses are not included in

the computation of the VCU grade-point average. The minimum grade-point average required for graduation is listed in the individual school and program sections. Graduate students are not designated as special honors graduates on transcript or diploma upon completion of their program.

Grade of Audit (AU)

Class size permitting, a student may register for a course on an audit basis. Auditing a course means that a student enrolls in a course but does not receive academic credit. A student who registers on an audit basis is subject to the attendance regulations of that class and may receive an administrative withdrawal for non-attendance. A student who registers for audit may be subject to other course requirements at the discretion of the instructor. Audit students are charged the regular rate of tuition and fees, and an audit course is counted as part of the student's semester load.

Grade of Continued (CO)

The grade of "CO" may be assigned as an interim grade for those courses which run over several grade reporting periods. The "CO" indicates that the course is not expected to be completed in a single semester and that the student must re-register for the course. Upon completion of the course a final grade will be assigned to the current semester and the previous "CO" grade(s) will remain. This grade may be assigned only in courses approved for such grading.

Grade of Honors (H)

Courses assigned the "Honors" grade will not be computed into the grade-point average.

Grade of Incomplete (I)

If, because of circumstances beyond the student's control, the student is unable to meet all the requirements of the course by the end of that semester, the mark of "Incomplete" ("I") may be given. The award of a mark of "Incomplete" requires an understanding between the instructor and the student as to when and how the course will be completed. This understanding must be recorded on an Incomplete Grade Assignment Form which is submitted with the final

course grade. The maximum time limit for submission of all course work necessary for removal of an "Incomplete" is the end of the last day of classes of the next semester following the semester (or summer session) in which the "Incomplete" was incurred. At that time an unremoved grade of "Incomplete" is automatically changed to a failing grade. An extension of the time limit is possible but must be approved, prior to the expiration date stated above, by the instructor and the dean of the school through which the course is offered. Written approval indicating the new time limit must be filed with the university registrar by the dean.

Grade of Pass (P)

This grade is awarded for certain courses to denote satisfactory completion of requirements. Courses assigned the grade of "P" will not be computed into the grade point average.

Grade of NC

This grade may be assigned as an interim grade for work on thesis or dissertation.

Grade of Progress (PR)

The grade of "Progress" may be used only in thesis or dissertation courses and other courses designated by the University Graduate Council. "PR" is assigned as an interim grade for courses which are not completed at the time final grades are to be submitted. A grade of "PR" will not be included in the calculation of the grade point average (GPA). The grade of "PR" must be removed within the time limit set for the degree.

Grade of Withdrawn (W)

The grade of "W" indicates that the student has officially withdrawn from a course or has been dropped for non-attendance. No student who has officially withdrawn from a course or has been dropped for non-attendance may attend subsequent meetings of the course.

TRANSCRIPTS

Copies of the permanent academic record or student record folders will not be released from the Office of the Registrar except in

very special instances and in conformity with legal requirements.

Official transcripts of a student's academic record will be issued only by the registrar's office upon written request of the student.

A charge of one dollar shall be made for each transcript.

Transcripts given directly to students do not carry the university seal and are not official. The seal is attached when the transcript is mailed directly from the university to the receiving party.

STUDENT SERVICES

Housing

Requests for housing information should be addressed to the Coordinator of University Housing, 915 West Franklin Street, Virginia Commonwealth University, Richmond, VA 23284. Information about housing off campus can also be obtained through this office. In general, most graduate students live off campus because of VCU's limited amount of available student housing.

Health Services and Insurance

The Student Health Service on the MCV Campus is supported by a health service fee required of all health sciences students. A program of prepared medical care is provided. The service is located on the first floor of South Hospital, 786-0206. The Student Health Service on the Academic Campus is supported by a health service fee required of all residence hall students. Other full-time students are invited to subscribe by paying the fee prior to the end of the first week of classes. The service is located at 827 West Franklin Street (Shafer Court entrance), 257-1212.

Additionally, an accident, hospital-surgical insurance plan sponsored by Virginia Commonwealth University is available to professional, graduate, and undergraduate students who are full-time. This voluntary plan is underwritten by North American Insurance Company, and a brochure can be obtained at the Office of Student Accounts, 327 West Main Street, 786-2228. VCU is not responsible for accidents occurring to students in connection with class, laboratory, shop, field work, athletics, student activity, travel, or other activities.

Counseling

University Counseling Services (UCS) provides a wide range of services that meet the personal, social, vocational, and educational needs of students. The goal of the UCS staff is to promote positive growth and self understanding by students as well as assist students who are experiencing stress or crisis in their daily living. Besides individual and group counseling, the UCS staff offers a number of programs and workshops designed to meet specific needs of students. Some typical offerings include career development, test and math anxiety management, and the teaching of communication skills. Services are free except for a small fee for occasional testing. University Counseling Services are available to both day and evening students. The hours of the services are from 8 am - 4:30 pm daily except on Tuesday and Wednesday evenings when UCS is open until 8 pm. All contacts and information are kept strictly confidential. Students can make an appointment by calling 257-1647 or visiting at 913 West Franklin Street.

Placement Services

The primary function of the Office of Placement Services is to assist students of all disciplines and all degree and class levels to find suitable employment. However, this office is engaged in a number of other services.

Counselors are available for consultation about specific career opportunities and planning a job search, as well as for more general counsel to assist in the formulation of career directions. This service is available to regularly enrolled students at the university, and alumni of the university. Included in the service is the Campus Interview Program. Representatives of business, industry, government, and education visit the campus each year to interview students of all disciplines and degree levels and to discuss a diversity of employment opportunities with interested students. The Office of Placement Services also receives numerous listings of full-time career opportunities from many organizations that do not participate in the Campus Interview Program. Students and alumni are referred directly to the employer's offices to learn more about these opportunities. The office also maintains a

career resource library containing career information, information about graduate study opportunities, and an employer resource library containing employer information and data. Related items of interest are available to all students considering career alternatives.

The office also provides job listings for currently enrolled students who are seeking part-time, temporary, or vacation employment. Jobs are available in the clerical, sales, food service, and unskilled labor areas. Frequently career-related opportunities are also available for students seeking employment of a limited duration.

All graduate students are strongly urged to register formally with this office located at 821 West Franklin Street, Richmond, VA 23284, (804) 257-1645.

Campus Gymnasiums

Academic Campus recreational facilities include two gymnasiums, swimming pool, weight room, gymnastics room, and dance room. For specific hours call 358-0259. The MCV Campus gymnasium includes a gymnasium for basketball and indoor tennis, recreational room, and weight room. Graduate students are also eligible for participation in 22 intramural sports activities on either campus. For specific information, call the Directors of Intramural Sports (Academic Campus: 257-1285; MCV Campus: 786-0437)

Postal Service

The university operates two branches of the United States Postal Service. Mail destined for the Academic Campus should be addressed to the respective department, Virginia Commonwealth University, 901 West Franklin Street, Richmond, VA 23284. Mail destined for the MCV Campus should be addressed to the respective department Virginia Commonwealth University, MCV Station, Richmond, VA 23298.

Window service is provided on the Academic Campus at 920 West Franklin Street Monday through Friday, 8 am - 4:30 pm and on the MCV Campus at 1000 East Marshall Street from 8 am - 5 pm.

Organizations

More than 145 student clubs and organiza-

tions exist on campus, reflecting the social, recreational, educational, political, or religious interests of the student body. Various types of organizations include fraternities and sororities, departmental professional and interest groups, service-oriented groups, and numerous special interest organizations representing a wide variety of activities and interests.

A list of registered student organizations, policies affecting these groups, and information and materials necessary to form new organizations are available in the Office of Student Activities.

Student Identification Cards

Students should carry their I.D. cards with them at all times and be ready to show them to any authorized university official who might request their identification. Students may obtain or validate their I.D. cards during registration. The cards are required for numerous university functions, including borrowing books from the library. Any student who loses an I.D. card should apply to the Office of the University Registrar for a replacement. There will be a charge for replacement.

Automobiles

Limited on-campus parking is available to students at a cost of \$.75 per day on a first-come first-serve basis. Students may apply for evening parking in university lots at the parking office at 920 West Franklin Street.

Extremely limited off-campus parking results in the recommendation that residence hall students should not attempt to bring their automobiles to Richmond. Unauthorized automobiles parked improperly on campus will be removed at the owner's risk and expense.

RULES AND REGULATIONS

Each member of the university community has certain responsibilities, rights, and privileges. These are stated in some detail in the *Virginia Commonwealth University Rules and Procedures*, and each student is responsible for being familiar with provisions of this document. The Rules and Procedures are printed in the campus calendar and are also available at the Office of Student Life. This document also provides for the process

whereby disciplinary action, including separation from the university, may be taken against a member of the university community as a result of behavior which is in violation of the prohibited conduct as stated in the Rules and Procedures. In addition to those standards of conduct described in the *Virginia Commonwealth University Rules and Procedures* and the Medical College of Virginia Honor Code, which applies to all students enrolled on the MCV Campus, a student enrolled at the university may be dismissed from the school in which he or she is enrolled for failure to meet prescribed academic program requirements.

IDENTIFICATION OF SYMBOLS FOR COURSE LISTINGS

| | |
|----------|--|
| I | a course given in the first semester |
| II | a course given in the second semester |
| I,II | a course given in each semester |
| I and II | a course continued through two semesters |
| S | a course given in summer sessions |

COURSE INTERPRETATION

A single number listing for a course, such as Business 648, indicates that it is a one-semester course and may be offered each semester or only one semester each year.

Courses listed with a double number, such as Theatre 503, 504 and designated as semester courses, consist of two one-semester courses, either semester of which may be taken without the other.

Courses listed with a double number, such as Speech 501-502 and designated as a continuous course, consist of two one-semester courses, the first of which can be taken without the second, but the second of which cannot be taken without the successful completion of the first.

The university reserves the right to withdraw any course or program.

COURSE NUMBERING

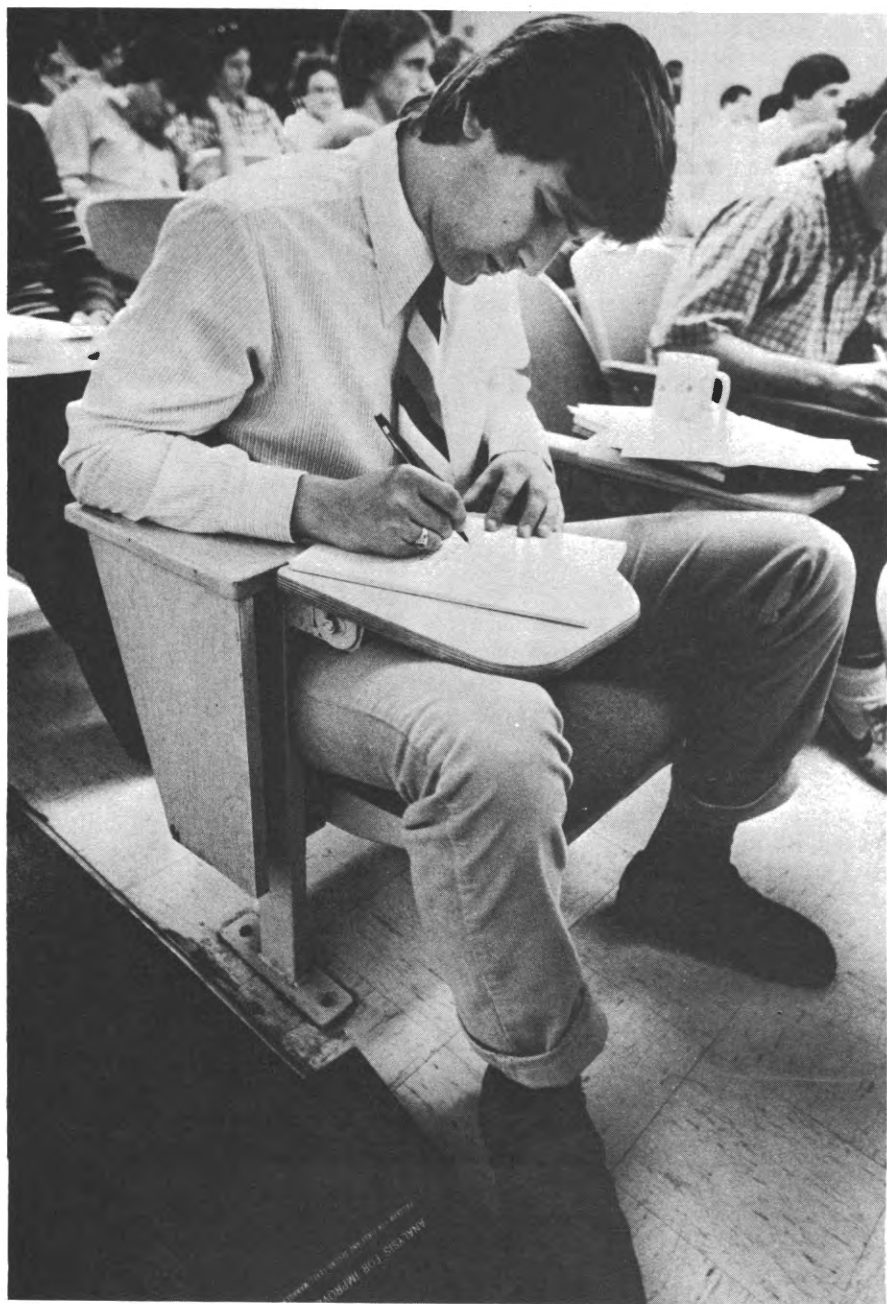
A change in the VCU course numbering

system has been approved to be implemented in the fall 1982 term. We publish the proposed text now in order that incoming students may become familiar with the system when it takes effect. Some wording changes may appear in the final version.

All schools and programs within this university use the following course numbering system.

1. All course numbers consist of three digits (XXX).
2. The first digit relates to the course level as follows:
 - a. 0XX Noncredit Courses
 - b. 1XX Undergraduate, Lower Level
 - 2XX
 - c. 3XX Undergraduate, Upper Level
 - 4XX
 - d. 5XX Introductory Graduate Courses
 - First Year, First Professional (Medicine and Dentistry)
 - Fifth Year Professional Baccalaureate (Pharmacy)
 - Graduate Courses
 - e. 6XX Second Year, First Professional (Medicine, Dentistry and Pharmacy)
 - 7XX Third and Fourth Year, First Professional (Medicine and Dentistry)

No graduate student shall be awarded degree credit for remedial work. Students advised to take any level course for remedial work shall be notified in writing that the course credit shall not apply to the degree they were pursuing. Other bodies may rule later, should the student wish to apply the credit to some other degree. Credit applied toward one degree may not be applied toward any other degree at VCU.



PART II—School of Allied Health Professions

ADMINISTRATIVE OFFICERS

THOMAS C. BARKER, B.S., M.A., Ph.D.

Dean

BENJAMIN T. CULLEN, Jr., B.S., M.A., Ed.D.

Associate Dean

JENNIE D. SEATON, B.A., M.S., Ed.D.

Director, Center for Allied Health Education

The School of Allied Health Professions was established on January 1, 1969.

A fundamental reason for the establishment of the School of Allied Health Professions was to provide an administrative structure for existing educational programs in allied health disciplines and to direct the development of new programs in response to growing needs for allied health manpower. At the outset, the school incorporated existing educational programs for hospital administration, medical technology, physical therapy, and radiologic technology. A program for nurse anesthesia was inaugurated as a separate department in 1969; an existing educational program in occupational therapy located on the Academic Campus was transferred administratively to the School of Allied Health Professions in 1970; also in 1970, a teaching program in patient counseling formerly based within MCV Hospitals was integrated with the school. Since 1974 baccalaureate programs in health care management, medical record administration, and radiation sciences with

specific concentrations in education and in administration have been established.

PROGRAMS

Graduate programs currently in this school and the degrees conferred on their graduates are:

DEPARTMENT OF MEDICAL
TECHNOLOGY: Master of Science
DEPARTMENT OF OCCUPATIONAL
THERAPY: Master of Science
DEPARTMENT OF PHYSICAL
THERAPY: Master of Science
DEPARTMENT OF HEALTH
ADMINISTRATION: Master of
Health Administration
DEPARTMENT OF NURSE
ANESTHESIA: Master of Science

PHILOSOPHY

The faculty of the school is committed to offer, through the establishment and maintenance of rigorous standards of excellence, education that will prepare students for professional careers in the several allied health disciplines. Development of professional attitudes, emotional maturity, and ethical behavior in students are vital components of the educational process. It is essential that students gain a deep respect for the dignity of man and the inherent rights of

patients and others who receive services. The programs are designed to include not only the development of skills to assure excellence in quality of health care, but also such factual knowledge and experiences that will provide the bases for continuing intellectual and professional growth.

Community services of the school and faculty include continuing education, consultative resources, and participation in all pertinent areas of health care. An integral part of these efforts is to stimulate and sponsor research activities in the allied health disciplines represented within the school and to encourage interdisciplinary research.

FACILITIES

Departments and programs in the School of Allied Health Professions are presently housed in Randolph-Minor Annex, the MCV Hospital South, the Newton House, the Nursing Education building, the Tompkins-McCaw Library, VMI building, the Sheltering Arms building, and the McGuire Veterans Administration Medical Center. Plans are currently under way to consolidate the various components of the School of Allied Health into one educational facility. This facility will permit expanded enrollments in most departments and programs, and provide improved and enlarged educational and research areas.

ACCREDITATION

Virginia Commonwealth University and all of its component schools are accredited by the Southern Association of Colleges and Schools, the general accrediting agency for colleges in the region. The School of Allied Health Professions is an institutional member of the American Society of Allied Health Professions and the Virginia Association of Allied Health Professions. All of its programs are approved or accredited by the appropriate national professional or educational organizations.

ATTENDANCE REGULATIONS

The faculty considers attendance at lectures, laboratories, and other functions a requisite to the successful acquisition of the knowledge and skills required of the professional. Hence, the faculty cannot condone

absence without good reason from any regularly scheduled educational experience. At the start of each course, the instructor will relate to the class the policy of his department concerning the attendance regulations for that semester. The nature of make-up work in the event of absence will be the prerogative of the instructor.

GRADUATE PROGRAMS

Graduate degree offerings in the School of Allied Health Professions are designated as basic professional or advanced level programs. Accreditation requirements for the individual programs preclude the establishment of general school admission prerequisites, registration dates, and course and degree requirements.

It is the intent that these regulations and procedures for each program insure the selection of applicants whose motivation, ability, character, and health status qualify them to pursue graduate study successfully. Specific information may be found in the departmental presentations in this section or are available from the departmental graduate coordinator.

STUDENT PERFORMANCE AND BEHAVIOR

The goals and objectives of the School of Allied Health Professions and its component departments and programs relate to the education of persons preparing for professional careers in the allied health disciplines. An integral requisite of each student and practitioner is an undeviating acceptance of a professional attitude and pride that will motivate him or her to adhere to a code of professional ethics and to develop fully his or her competencies for practice.

Thus, the suitability of student performance and behavior relating to these professions and to the consumers of health care is a paramount concern of the administration and faculty of this school. Standards of conduct are presented in the general information section of this bulletin and relate to the students in the School of Allied Health Professions. To assure a quality of educational and clinical preparation for its graduates, the following statement is also promulgated:

"If, in the judgment of the Faculty/Ad-

ministration of the School of Allied Health Professions, a student is not considered suitable for emotional, professional, or related reasons, the student's academic status may be appropriately altered."

If any questions arise regarding the standards of performance or behavior, it is the responsibility of students to apprise themselves of acceptable character and conduct requirements prior to matriculation in the designated department or program.

GRADUATE COURSES IN ALLIED HEALTH PROFESSIONS (AHP)

Nearly all course offerings in the schools are provided by departments and programs; however, selected graduate courses considered applicable to many students in these programs have been assigned to the School of Allied Health Professions.

530 Special Topics. Semester course; 1-4 credits. Prerequisite: permission of instructor. Interdisciplinary study through lectures, tutorial study, or independent research of selected topics not provided in other courses.

573 Teaching in Health Professional Schools. Semester course; Section 01, 3 lecture hours. 3 credits. Section 02 (Dental), 3 lecture hours. 2 credits. Study of the relationships between health education and higher education in general; current essentials; and standards in education for the health professions; and theoretical approaches to the implementation of these standards in both academic and clinical learning. Emphasis will be placed on modes of adapting to future needs of the professions.

574 Health Education Practicum. Semester course; 1 lecture and 4 laboratory hours. 1-6 credits. Preparation, presentation, and evaluation of selected educational experiences in the appropriate undergraduate program.

581 Administration in the Allied Health Professions. Semester course; 3 lecture hours. 3 credits. Study of the health delivery systems, administrative processes and techniques, budgeting, and program development.

582 Supervision in the Allied Health Profession. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Study of the supervisory process and staff development, training in communication and interpersonal skills, and public relations within the health facility.

583 Supervisory and Administrative Practicum in Allied Health Clinics. Semester course; 60 clinical hours per credit. 1-9 credits. Section 01 MT, Section 02 PT. Prerequisite: permission of instructor. The course is designed for the student who will be assuming supervisory and administrative roles. Areas to be covered include clinical personnel management, budgeting and ordering of materials and equipment, consultation with physi-

cians, developing and troubleshooting clinical methods, designing job descriptions, and implementation of quality control programs.

Courses offered by the School of Education on the Academic Campus are generally oriented to graduate students interested in teaching, administration, or supervision.

Department of Medical Technology

GRADUATE PROGRAM

The Department of Medical Technology offers a program leading to a Master of Science degree in medical technology. It is designed to provide advanced theoretical and practical education to the individual whose aim is to become an educator, supervisor (administrator), or researcher in the field of medical technology. Students may specialize in one of the following clinical disciplines: hematology, microbiology, chemistry, or instrumentation. The core curriculum comprises courses in education, administration, and clinical instrumentation. This is in addition to the numerous basic science courses offered within the department or in other departments of the university.

ADMISSION REQUIREMENTS

In addition to the general requirements for admission to the university, the applicant must:

1. hold a baccalaureate degree;
2. hold current certification as a medical technologist or specialist;
3. have a minimum of two years' experience in clinical laboratory science. It is recommended that at least one of these two years be in the area in which the student plans to specialize (in extraordinary circumstances and upon approval of a majority of the faculty, this requirement may be waived); and
4. take the Graduate Record Examination (GRE). Any medical technologist who desires to advance his theoretical and practical knowledge may be admitted upon the recommendation of the faculty as a special or conditional student, and enroll in any of the graduate courses offered within the university. Special or conditional

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students, however, cannot be considered for candidacy for the Master of Science degree until the full admission requirements are satisfied.

Application materials may be obtained from the dean, School of Graduate Studies, Box 568, MCV Station, Virginia Commonwealth University, Richmond, VA 23298.

ACADEMIC REQUIREMENTS

It has been found that 21 to 25 months on a full-time basis are necessary to complete the requirements. There are no full-time residence requirements. However, part-time students must complete all work requirements within five years. An interruption in registration in excess of one semester requires prior approval of the department.

The minimum credit requirement is 34 semester hours: 18 in basic science (3 in instrumentation), 6 in research, 3 in education, and 3 in supervision/management. Actual credit hours accumulated will vary depending upon the student's area of specialization. Included in this is required participation in MET 590 Seminar for a minimum of 4 semesters. Past experience has shown that the average candidate accumulates more hours than this. All courses selected must be approved by the student's advisor.

A research study conducted under the guidance of an advisor, and culminating in a thesis is required of all candidates. The thesis must be presented in both written and oral form to a thesis committee composed of the student's advisor and two other members. The thesis committee will include at least one member from a department other than medical technology.

PROGRAM OPTIONS

The department offers instruction in education, supervision and administration, biomedical research, and instrumentation. The student is expected to gain experience in at least one of these areas by way of specific theoretical and laboratory (practicum) courses.

The basic science requirement may be distributed among approved courses listed in the graduate bulletin. It is strongly recommended that students obtain at least one

course in computer science and/or biostatistics.

FACULTY

Professor: Izard

Associate Professor: Karselis; Odom

Assistant Professors: Adams; Prentice; Sauer; Small; Sommer

COURSES OF INSTRUCTION (MET)

501 Instrumental Methods of Analysis I. Semester course; 2 lecture and 4 laboratory hours. 2-4 credits. Prerequisite: permission of instructor. A study of modern research and clinical laboratory instrumentation and procedures. Principles, theory, and comparison of laboratory instruments will be discussed in detail along with the factors affecting their operation. Two credit hours will be given students upon successful completion of the lecture portion of the course. Laboratory exercises have been designed to demonstrate the practical applications of the instruments studied in the research and clinical laboratory. Two additional credit hours will be given to students who elect and satisfactorily complete this option. Areas to be covered include: spectrophotometry, fluorometry, flame emission photometry, and atomic absorption spectrophotometry. Offered alternate years beginning 1981.

502 Instrumental Methods of Analysis II. Semester course; 2 lecture and 4 laboratory hours. 2-4 credits. Prerequisite: permission of instructor. A study of modern research and clinical laboratory instrumentation and procedures. Principles, theory, and comparison of laboratory instruments will be discussed in detail along with the factors affecting their operation. Two credit hours will be given students upon successful completion of the lecture portion of the course. Laboratory exercises have been designed to demonstrate the practical applications of the instruments studied in the research and clinical laboratory. Two additional credit hours will be given to students who elect and satisfactorily complete this option. Areas to be covered include: electrophoresis, chromatography, particle counters, radioisotope counters, and clinical laboratory automation. Offered alternate years beginning 1981.

505 Advanced Hematology. Semester course; 4 lecture hours. 4 credits. To enable the student to understand the basis for special procedures used in hematology and their application in differentiating blood dyscrasias.

510 Interpretative Clinical Hematology. Semester course; 2 lecture hours. 2 credits. Prerequisite: permission of instructor. The aim of this course is to present the principles of hematopoiesis and to study related pathological and pathophysiological correlation of hematological disorders.

580 Supervision and Administration in Medical Technology. Semester course; 3 lecture hours. 3 credits. This course is designed for students who will be assuming leadership roles in medical technology. Special emphasis will be placed on the role of the medical technologist in education. Topics to be covered include: curriculum design, laboratory design, including

teaching areas, budgeting, interviewing, ordering equipment and supplies, and requirements for accreditation of approved programs for MT, MLT, and CLA.

590 Medical Technology Seminar. Semester course; 1 lecture hour. 1 credit. Presentation and discussion of current research and topics of interest by the departmental faculty, graduate students, and visiting lecturers.

650 Special Topics in Medical Technology. Semester course; 1-4 credits. This course provides for lectures, tutorial studies, and/or library assignments in specialized areas not available in formal courses or research training.

690 Research in Medical Technology. Semester course; 1-15 credits. Research leading to the M.S. degree.

See other sections of this bulletin for descriptions of the following courses:

| | |
|------------------------|-------------------------|
| BIS 521. See page 114. | PAT 610. See page 119. |
| AHP 573. See page 25. | PAT 513. See page 119. |
| AHP 574. See page 25. | PAT 510. See page 119. |
| AHP 581. See page 25. | ANA 514. See page 112. |
| AHP 582. See page 25. | BIC. 501. See page 113. |
| AHP 583. See page 25. | BIC 503. See page 113. |
| HAD 647. See page 40. | BIC 505. See page 113. |
| PAT 509. See page 118. | MIC 504. See page 115. |
| PAT 521. See page 119. | MIC 507. See page 116. |
| PAT 522. See page 119. | BIP 501. See page 113. |
| PAT 606. See page 119. | GEN 504. See page 115. |
| PAT 614. See page 119. | GEN 516. See page 115. |
| PAT 602. See page 119. | PIO 502. See page 118. |

Department of Occupational Therapy

"Since the primary focus of occupational therapy is the development of adaptive skills and performance capacity, its concern is with factors which serve as barriers or impediments to the individual's ability to function, as well as those factors which promote, influence, or enhance performance.

"Occupational therapy provides service to those individuals whose abilities to cope with tasks of living are threatened or impaired by development deficits: the aging process, poverty and cultural differences, physical injury or illness, or psychologic and social disability." (From Definition and Functions, American Occupational Therapy Association.)

HISTORY

The program in occupational therapy was initiated at Richmond Professional Institute in 1942.

In 1965 the graduate program leading to a Master of Science degree in basic professional education in occupational therapy was initiated. The School of Occupational

Therapy became a department in the School of Allied Health Professions in 1970 with the creation of Virginia Commonwealth University.

PHILOSOPHY

The faculty of the Department of Occupational Therapy is concerned with improving the quality of occupational therapy professional services through education relevant to current consumer needs and through the development of student attitudes of commitment to personal and professional competence. Research, community service, and continuing education are viewed as ways to improve professional services and at the same time enhance the quality of the educational program.

The department seeks to provide individualization of educational experiences through a professional curriculum. This curriculum emphasizes experiential learning and provides an integrated education organized around a human developmental frame of reference.

OBJECTIVES

To provide the student with the opportunity to become a competent registered occupational therapist through critical thinking and problem solving experiences.

To provide an environment for the student to develop respect for the dignity and basic needs of individuals throughout their life span as these may be met in present and future health care delivery systems.

To provide the student with the opportunity to develop skills necessary to evaluate and execute effective treatment in occupational therapy.

FACILITIES

The educational facilities of the Department of Occupational Therapy are located in the Virginia Mechanics Institute Building at the northeast corner of Tenth and Marshall Streets. In addition, the department has an educational clinic at McGuire Veterans Administration Medical Center.

During the basic professional graduate program, field work assignments are made for students in a wide range of clinics and agencies in the Richmond metropolitan area. A 24-week extended field work requirement

will be arranged in approved clinical education facilities throughout the United States.

ACCREDITATION

The basic professional graduate program to become an occupational therapist is accredited by the American Occupational Therapy Association and the Committee on Allied Health Education and Accreditation of the American Medical Association.

HONORS AND AWARDS

C. A. Kooiman Memorial Award. This award is given in memory of C. A. Kooiman, director of the occupational therapy curricula from 1961 until his death in 1976. The award is made annually to the graduate student completing the best research project.

PROGRAMS

Three courses of study are offered:

1. A Master of Science of occupational therapy degree program designed for college graduates who wish to become occupational therapists. This program may be completed in two calendar years or may be individually designed for students who need a slower pace. The basic professional master's program includes academic courses, a thesis or research project, and 960 clock hours of field work experience. Twelve weeks of the field work clock hours must be continuous.
2. A Master of Science degree program for those who are registered occupational therapists. This program is individually designed in special areas of concentration. A minimum of 33 semester hours including a thesis is required.
3. A Master of Science degree program for occupational therapists with interest and experience in hand management.

ACADEMIC REGULATIONS

Students are admitted to the occupational therapy programs with the expectation that they will direct maximum time and effort to the learning process. Outside activities must be scheduled by students for such dates and

hours that permit full compliance with the time requirements for course work. Students must not expect that allowances will be made, except in very unusual situations, for tardiness, lack of regular attendance, and meeting deadlines for course assignments because of employment or other outside activities.

To continue in the graduate curriculum students are expected to maintain a cumulative GPA of 3.0.

1. Students who fail to maintain a cumulative grade point average of 3.0 in all courses or who receive a grade of "D" at the end of the first fall semester of enrollment and for every semester thereafter, will automatically be placed on one semester of probation.

Conditions of probation require the student to earn a quality point average the semester of probation sufficient to result in a cumulative GPA of 3.0 and may include recommendations for academic counseling, assignments by individual instructors, and other appropriate conditions as outlined in a letter of notification of probationary status prepared by the Committee on Academic Standing and Student Progress.

2. Students who earn an "F" or two "D" grades will not be allowed to continue in the program.
3. Students who receive two "C" grades (except in Field Work II) and yet who may not have a deficient GPA will receive a letter of concern of unsatisfactory performance with recommendations for remediation.
4. Students who withdraw from Field Work II before the mid-point of the field work will receive a "W." Students who withdraw from Field Work II after the mid-point of the experience and prior to three weeks from completion will normally receive an F. Students receiving an F will be reviewed by the Committee on Academic Standing which may result in termination or continuation on probationary status with continuation contingent upon remediation.
5. Students who have not fully met the requirements for admission may be admitted into the graduate program

on conditional status. Advancement to full status may be approved by the Committee on Academic Standing and Student Progress when the student has satisfactorily completed one semester of graduate studies. Students admitted on conditional status may be dismissed from the graduate program at the end of their first semester of graduate studies if they have not earned a 3.0 GPA. Conditional status is a probationary status; the requirements for advancement to regular status are specified in the student's conditional admission letter prepared by the Graduate Admissions Committee.

6. Regardless of academic standing, to continue in the program, students are also expected to:
 - a. Pay all fees;
 - b. Maintain personal attributes and behavior appropriate for professional practice;
 - c. Complete field work requirements to the satisfaction of clinical and academic faculty.
7. Although arrangements are made in advance, each student is reviewed prior to placement in Field Work II education. The student must have satisfactorily completed courses prerequisite to that field experience. He/she must also demonstrate the maturity, stability, professional attitude, and behavior essential for him/her to benefit and perform adequately in the placement.

GRADUATE PROGRAM—BASIC PROFESSIONAL PROGRAM

The Department of Occupational Therapy offers a program leading to a Master of Science in Occupational Therapy degree for qualified students who have earned a bachelor's degree in a related field.

Admission Requirements¹

Admission to the graduate program in occupational therapy requires completion of a

bachelor's degree from an accredited university or college. Applicants should have maintained a minimum grade point average of 2.7 based on a four-point scale.

Applicants for the basic professional master's degree program must complete the following prerequisites with a grade of "C" or better:

| | |
|--|-------------------|
| English | 6 semester hours |
| Biological Sciences | 6 semester hours |
| Must include | |
| Human Anatomy with laboratory — 1 course and | |
| Human Physiology with laboratory — 1 course | |
| or | |
| Human Anatomy and Physiology | |
| with laboratory | |
| 6 semester hours | |
| Social Sciences | 15 semester hours |
| Must include: | |
| Psychology | 6 semester hours |
| Sociology, Social Psychology, | |
| Anthropology | |
| 3 semester hours | |
| Statistics | 2 semester hours |

These are considered minimal prerequisites, and applicants are encouraged to pursue additional study in biology, psychology, and sociology. To fulfill the psychology prerequisite, courses in Developmental Psychology, Theories of Personality, and Abnormal Psychology are highly recommended. Experience in occupational therapy or human service agencies is required. Admission is selective, since the number of applicants exceeds the number of students who can be enrolled.

Applicants for admission will be required to submit two official transcripts from each institution attended, an application form and a non-refundable \$10 application fee, reference forms, and an official report of scores on the Graduate Record Examination Aptitude Test.

For further information and application materials, contact the Office of the Dean, School of Graduate Studies, Virginia Commonwealth University, Box 568, MCV Station, Richmond, VA 23298.

Curriculum Plan

The total program is planned for completion in two calendar years of full-time study and encompasses academic and field work education as well as a research project. Each academic session has as a prerequisite successful completion of all preceding academic work.

¹ See also the section on graduate programs in the School of Allied Health Professions.

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| First Year, Summer | | Credits |
|------------------------------|---|-----------|
| BIO 525 | Advanced Functional Anatomy . . | 5 |
| BIO 529 | Advanced Functional Neuroanatomy | 3 |
| | | <u>8</u> |
| First Year, Fall Semester | | |
| OCT 501 | Basic Treatment Concepts and Skills | 2 |
| OCT 503 | Occupational Life Roles and Tasks | 2 |
| OCT 505 | Physical Dysfunction and Occupational Therapy Intervention I | 5 |
| OCT 507 | Psychosocial Dysfunction and Occupational Therapy Intervention I | 5 |
| OCT 509 | Activity Theory and Skills I | 2 |
| | | <u>16</u> |
| First Year, Spring Semester | | |
| OCT 502 | Research Methods in Occupational Therapy | 3 |
| OCT 504 | Occupational Life Roles and Tasks II | 1 |
| OCT 506 | Physical Dysfunction and Occupational Therapy Intervention II | 5 |
| OCT 508 | Psychosocial Dysfunction and Occupational Therapy Intervention II | 5 |
| OCT 510 | Activity Theory and Skills II | 2 |
| | | <u>16</u> |
| Second Year, Summer | | |
| OCT 600 | Field Work Education I | 9 |
| Second Year, Fall Semester | | |
| OCT 603 | Administration and Supervision of Occupational Therapy Services . | 3 |
| OCT 605 | Influences on Health and Health Care | 2 |
| HAD 600 | Hospital and Medical Care Organization | 3 |
| OCT 650 | Special Topics in Occupational Therapy | 3 |
| OCT 691 | Research in Occupational Therapy | 3 |
| | | <u>14</u> |
| Second Year, Spring Semester | | |
| OCT 660 | Field Work Education II | 9 |
| OCT 692 | Research in Occupational Therapy | 3 |
| | | <u>12</u> |

GRADUATE PROGRAM FOR OCCUPATIONAL THERAPISTS

The Department of Occupational Therapy offers a Master of Science degree program for registered occupational therapists with the following areas of concentration: administration, education, gerontology, pediatrics, physical disabilities, and psychosocial dysfunction.

Admission Requirements

Applicants must have earned a bachelor's degree from an accredited college or university. All applicants must have graduated from an accredited occupational therapy program approved by the American Occupational Therapy Association. An official report of scores on the Aptitude Test of the Graduate Record Examination is required.

For information and application materials, contact the Office of the Dean, School of Graduate Studies, Virginia Commonwealth University, Box 568, MCV Station, Richmond, VA 23298.

Curriculum

The Master of Science degree program includes a minimum of 27 credits of approved course work and six credits for the thesis. Students may plan for full-time study or may plan to enroll on a part-time basis. Full-time students must plan at least 12 months to complete all degree requirements.

Each occupational therapist accepted for the master's degree program will develop an individualized plan of study with the help of a faculty advisor. This study plan must be approved by the Committee on Academic standing and Student Progress of the Department of Occupational Therapy.

PROGRAM OF STUDY

| | | Credits |
|--|---|----------|
| Required Core Courses | | |
| OCT 502 | Research Methods in Occupational Therapy | 3 |
| OCT 601 | Advanced Theoretical Concepts in Occupational Therapy | 3 |
| Required Administration Course: Select One | | |
| OCT 603 | Administration and Supervision of Occupational Therapy Services . | 3 |
| OCT 605 | Influences on Health and Health Care | 2 |
| OCT 611 | The Habilitation Team in Public Schools | 3 |
| | | <u>9</u> |
| Area of Concentration | | |
| Graduate courses from the Department of Occupational Therapy or from other departments at Virginia Commonwealth University | | |
| Elective Courses | | 9 |
| Required Research | | |
| OCT 691 | Research in Occupational Therapy | 3 |
| OCT 692 | Research in Occupational therapy. | 3 |

Notes: A minimum of 3 credits in the area of concentration or elective courses must come from within the Department of Occupational Therapy.

Students must complete one statistics course. Courses taken at the undergraduate level meet this requirement but may not be counted toward the graduate degree.

GRADUATE PROGRAM FOR OCCUPATIONAL THERAPISTS: HAND MANAGEMENT

The Department of Occupational Therapy offers a Master of Science degree program planned for experienced occupational therapists with special interest in functional assessment of hand problems, diagnosis of hand problems, and therapeutic programs for upper extremity problems.

The hand management program in occupational therapy is offered under the guidance of Wyndell H. Merritt, M. D. and the Department of Occupational Therapy and in collaboration with the Department of Physical Therapy. Two occupational therapists will be selected to participate each year.

Admission Requirements

Applicants must have earned a bachelor's degree from an accredited college or university. All applicants must have graduated from an accredited occupational therapy program approved by the American Medical Association and the American Occupational Therapy Association. Professional experience and special interest in hand rehabilitation are required.

Curriculum

The advanced master's degree program in hand management requires 45 semester hours of course work and a thesis. A minimum of 18 months of full-time study is needed to complete the program.

FACULTY

Professor: Maurer

Associate Professors: Chichester; Powell; Saxton; Wolfe

Assistant Professors: Barris; Ford; Hopkins; Kielhofner; Nelson; Watts

Clinical Instructors: Burrage; Cerny; Gorman; Hanshaw; McDaniel; Miller; Shepherd

GRADUATE COURSES IN OCCUPATIONAL THERAPY (OCT)

501 Basic Treatment Concepts and Skills. Semester course; 1 lecture and 2-4 laboratory hours. 2-3 credits. Introduces important occupational therapy concepts: the influence of activity on health, the basic occupational therapy process, evaluation, motivation, and learning. Develops skill in observation and interviewing as data-gathering methods.

502 Research Methods in Occupational Therapy.

Semester course; 3 lecture hours. 3 credits. Covers the steps in the research process: problem definition, literature review, research design and data collection appropriate to occupational therapy, data analysis and interpretation, and research reporting. Emphasizes action research, evaluation research, and the preparation of a proposal for a thesis or project. Students with prior course work or experience in research may be permitted to take an elective instead of this course.

503 Occupational Life Roles and Tasks I. Semester course; 1 lecture and 3 laboratory hours. 2 credits. A study of growth and developmental processes and influences from infancy through adolescence, with primary focus on life roles and occupational performance skills related to self-help tasks, play/leisure tasks, and school/work tasks.

504 Occupational Life Roles and Tasks II. Semester course; 2 laboratory hours. 1 credit. This course will examine the development of occupational behavior in the adult portion of the life span. It draws upon concepts of time, role, habits, interest, and values to examine how the normal adult proceeds through occupational choice, worker roles, and retirement. The course also examines the balance of work and play and its change in normal development. Finally the course will examine the effects and interrelationships of disability with normal occupational development in adulthood.

505 Physical Dysfunction and Occupational Therapy Intervention I. Semester course; 3 lecture and 6 laboratory hours. 5 credits. The focus of this course will be to identify and describe physical dysfunction seen in the continuum of health care in medical, educational, and community settings. A wide variety of evaluative and therapeutic approaches will be explored for the age range of infancy through adolescence. Assigned level one field work will be part of the course.

506 Physical Dysfunction and Occupational Therapy Intervention II. Semester course; 3 lecture and 6 laboratory hours. 5 credits. Beginning with the early adult years and continuing through the rest of the life span, the emphasis of this course will be twofold: (1) To identify and describe physically disabling conditions (acute and chronic) which interrupt occupational development and function during this age range. (2) To apply the theories and principles of occupational therapy to the evaluation and treatment of physically disabled persons (acute and chronic) during this age range. Assigned level one field work will be a part of this course.

507 Psychosocial Dysfunction and Occupational Therapy Intervention I. Semester course; 3 lecture and 6 laboratory hours. 5 credits. This course will focus on psychosocial pathologies which occur within the infancy through adolescence age span (including specific learning disabilities, mental retardation, and other diagnostic classifications). Theories and principles of occupational therapy intervention, useful in medical, educational, and community settings will be explored. Assigned level one field work will be part of the course.

508 Psychosocial Dysfunction and Occupational Therapy Intervention II. Semester course; 3 lecture and 6 laboratory hours. 5 credits. This course will introduce common psychiatric disorders of young, middle, and

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older adults followed by review of theoretical frames of reference and related occupational therapy evaluation and intervention methods. Assigned level one field work will be included.

509-510 Activity Theory and Skills I and II. Semester course; 1 lecture and 2 laboratory hours. 2 credits. Analysis of student's activity history and skills in areas of play/leisure, self-care, homemaking, and work and development of skill in performing selected activities, including splint-making. Emphasizes teaching, analysis, and therapeutic application of activities. Also stressed are evaluation and development of client's work, homemaking, and daily living skills.

600 Field Work Education I. 3-9 credits. Twelve-week fulltime experience in programs providing occupational therapy services.

Supervised field work experiences are arranged in various settings for the application of academically acquired knowledge. Placements include experiences in prevention, health maintenance, remediation, daily life tasks, and vocational adjustment. Field work settings may include hospitals, rehabilitation centers, school systems, community agencies, camping programs, penal systems, and the like. Field work experiences are arranged individually, but placement in a specified location cannot be guaranteed.

In the event of failure, the course may be repeated only upon recommendation by the academic and clinical faculty. Field work must be completed no later than 24 months following completion of the academic phase.

601 Advanced Theoretical Concepts in Occupational Therapy. Semester course; 3 lecture hours. 3 credits. Prerequisite: OCT 312 or 501 or student must be registered occupational therapist. This course offers an advanced conceptualization of a generic theory base for occupational therapy. The course includes examination of the nature and organization of scientific knowledge, the medical model and other models of health care, sociological features of occupational therapy practice, and the study of human occupation and its disruption in illness.

603 Administration and Supervision of Occupational Therapy Services. Semester course; 2 lecture and 2 laboratory hours. 3 credits. The management of human and non-human resources in the provision of efficient and effective occupational therapy services; the nature of formal and informal organizations, the administrative process, and administrative tasks. Includes supervision, consultation, and the planning of occupational therapy field work education.

605 Influences on Health and Health Care. Semester course; 2 lecture hours. 2 credits. The nature of health, illness, and disability; the sick role; relationship between occupational therapy and the health care system; current professional issues in occupational therapy.

611 The Habilitation Team in Public Schools. Semester course; 3 lecture hours. 3 credits. Examination of P.L. 94-142, The Education for All Handicapped Children Act of 1975, with implications for allied health professionals. Emphasis on the role of the habilitation team in school programs for handicapped children.

612 Occupational Therapy Assessment of Children. Semester course; 3 lecture hours. 3 credits. Introduction

to the theory of testing. Administration, scoring, interpretation, and reporting of selected tests and informal assessments useful in an occupational therapy evaluation of children. Field work experiences will be required.

613 Occupational Therapy: From Research to Practice in Cognitive Development. Semester course; 3 lecture hours. 3 credits. Review of current theory and research in cognitive development. Application of child development research to handicapped children. Emphasis on the practical implications for pediatric occupational therapy.

614 Occupational Therapy for Severely Handicapped Children. Semester course; 3 lecture hours. 3 credits. Prerequisite: OCT 612. Selected intervention strategies for pediatric occupational therapy. Emphasis on theory and the application of research to the treatment of severely handicapped children.

650 Special Topics in Occupational Therapy. Semester course; 3 credits. Designed around the interests of students, faculty expertise, and availability and expertise of Richmond area occupational therapists or visiting lecturers. Format may include intensive mini-courses or workshops, an advanced course, or independent study with some opportunity for election and development of knowledge and skills in a specialized area of occupational therapy.

660 Field Work Education II. 3-9 credits. Twelve-week full-time experience, or its equivalent, in programs providing occupational therapy services. Further description and regulations for OCT 600 also apply to this course.

691 Research in Occupational Therapy. 3 credits. Completion of a department proposal for a research project or master's degree thesis relevant to occupational therapy.

692 Research in Occupational Therapy. 3 credits. Completion of a research project or master's degree thesis relevant to occupational therapy.

See other sections of this bulletin for descriptions of the following courses:

BIO 525 Advanced Functional Anatomy

BIO 529 Advanced Functional Neuroanatomy

BIS 521 Statistical Principles of Health Care Information

Department of Physical Therapy

HISTORY

The current graduate program in physical therapy, which was initiated in 1968 with one student, began to expand in 1971 with the appointment of a full-time director. Enrollment currently varies from 6 to 12 students in each class.

PHILOSOPHY AND OBJECTIVES

In a world where knowledge is doubling every few years, continuing education has become a way of life for most professional people. Many of yesterday's truths have been disproven and tomorrow's truths are being generated in today's laboratories and clinics. Physical therapy, an integral part of the health care system, is involved both broadly and deeply in this atmosphere of change and growth. Expanding knowledge and skills in the basic and clinical sciences and changes in the needs and mandates of society have placed new demands and created new responsibilities for physical therapists.

These changes have not only altered the existing basic professional preparation programs but have also stimulated the development of a variety of new and innovative postgraduate and continuing education programs. The master's degree program is designed to meet the needs of many practicing physical therapists who want to increase their skills and competencies in specialized aspects of their profession. The guiding principle of this program is flexibility which provides for adaptation to the specific interests and goals of the individual student. The student may elect courses from most of the graduate departments of both the MCV Campus and the Academic Campus of VCU (e.g. anatomy, physiology, health administration, psychology, education, etc.) in addition to courses from the graduate program of the Department of Physical Therapy in order to build a meaningful, integrated, individualized program of studies.

Prospective students are encouraged to have their goals clearly defined before they start a graduate program. Typical goals might include specialization as a clinician, educator, researcher, consultant, or administrator with expertise in a basic science or in a clinical specialty.

Areas of specialization have been developed in therapeutic kinesiology, teaching therapeutic exercise, general kinesiology and biomechanics, pediatrics, orthopaedic rehabilitation, academic and clinical education, and organization and delivery of physical therapy services. The faculty have developed recommended sequences of courses for each of these tracks.

A new interdisciplinary curricular track in geriatric physical therapy was established in 1980. The program is described in the back of this bulletin with the other interdisciplinary programs. See index.

Another interdisciplinary program in hand rehabilitation is co-sponsored by the Departments of Plastic Surgery, Physical Therapy, and Occupational Therapy, under the guidance of Wyndell H. Merritt, M. D. The program is planned for experienced physical and occupational therapists with special interest in functional assessment and therapeutic programs for hand and upper extremity problems.

One physical therapist and one or two occupational therapists will be admitted to this curriculum each fall. The advanced Master's Degree program in hand rehabilitation requires 45 semester hours of course work and a thesis. A minimum of 18 months of full-time study is needed to complete the program.

FUTURE PLANS, FACILITIES

In addition to the usual classroom facilities, the department is developing a kinesiological research laboratory with equipment for both bioelectrical and photographic studies. Graduate students interested in education do their teaching practicum in the undergraduate classes and laboratories and in the clinical departments of MCV Hospitals. A clinical specialty practicum may be individually arranged in appropriate facilities in or out of Richmond.

Present courses and facilities will be expanded as enrollment and student interests indicate a need.

ADMISSION REQUIREMENTS

1. All general requirements for admission as specified by the section in this bulletin on graduate admission to Virginia Commonwealth University.
2. Graduation from a physical therapy program approved by the American Physical Therapy Association (or, for foreign students, its equivalent as determined by the Physical Therapy Graduate Program Admissions Committee). For further information and application materials, contact the dean

of the School of Graduate Studies, Virginia Commonwealth University, Box 568, MCV Station, Richmond, VA 23298.

THE STUDENT'S ADVISOR AND GRADUATE COMMITTEE

1. Each student shall have an advisor and a graduate committee.
2. Appointment and duties of the advisor:
 - a) An initial advisor will be the director of the graduate program of the student's department, or his designee.
 - b) A permanent advisor shall be appointed by the dean upon recommendation of the chairman of the student's major department. Appointment should be made no later than the second semester after acceptance. A change in advisor may be made by the dean upon recommendation of the chairman of the major department.
 - c) The advisor shall be chairman of the student's graduate committee.
 - d) The advisor shall, with the student's graduate committee, have responsibility for the total guidance of the student, subject to the approval of the chairman of the department and dean of the School of Allied Health Professions.
 - e) The advisor shall work out a plan of study with the student.
 - f) The advisor shall supervise the student's research work and thesis preparation and be one of the examiners of the thesis.
3. Appointment and duties of the student's graduate committee:
 - a) The student's graduate committee shall be appointed by the dean upon recommendation of the student's advisor. The composition of the graduate committee shall be such that all significant areas of the student's course work are represented. For the purpose of examinations and thesis evaluation, and because of special knowledge and distinction in the field of the candidate's work, an additional member, who may be

from a different institution, may be appointed to the student's graduate committee by the dean. Changes in the membership of the committee are made in the same way. The committee for the M.S. candidate shall consist of a minimum of three members as follows: the student's advisor; one other representative member of the graduate faculty of the department in which major work is to be taken; and one representative of the faculty outside the major department.

- b) The student's graduate committee shall work with the student's advisor in guiding the student's graduate program.
- c) The student's graduate committee shall conduct oral comprehensive and final examinations and act as moderators for the thesis.

GENERAL REQUIREMENTS FOR GRADUATE DEGREES

1. All full-time graduate students are expected to register for 12 semester hour credits per semester. This requirement includes research.
2. Grades are assigned with these values: A—excellent, indicating unusual achievements; B—clearly satisfactory; C—passing; D—unsatisfactory for graduate credit; F—failure. The grade-point value of the grades shall be 4,3,2,1 and 0 for A,B,C,D and F, respectively. No student may take the comprehensive examination if the overall grade-point average is less than 2.5 or if the grade-point average for courses within the major department is below 3.0. Research credits shall not be counted in computing this average, and shall be graded as P—pass satisfactory, or F—fail. Other grade interpretations are described in Part I of this bulletin.
3. All cases of unsatisfactory student performance, including any grade of D or F, failure to pass written or oral comprehensive examinations, or thesis or final examinations require action of the dean to permit the student to continue.
4. Five or more copies of the thesis (as re-

- quired) prepared according to standards approved by the school's graduate committee in final form three weeks or more before the date of graduation. (Graduation dates are in May, August, and December.) These copies are to be submitted in temporary binders. Following acceptance of the thesis and passing of the final examination, it shall be the responsibility of the candidate to present to the dean's office five copies of the thesis suitable for binding along with a check to cover the cost of handling.
5. The dean will recommend the granting of a degree, only after all requirements have been fulfilled, including payment of all fees to the university, and after submission of the copies of the thesis for binding. Degrees are not granted *in absentia* unless specific written request is made to the dean and permission granted by him or her.
 6. A minimum of 24 semester hours is required, exclusive of research credits. In practice, it is found that two years of study usually are necessary to complete the requirements. A time limit of five calendar years, beginning at the time of first registration, is placed on work to be credited toward the Master of Science degree. As many as eight semester hours credit may be given for work previously completed, upon recommendation of the student's graduate committee with concurrence by the dean.
 7. Each student conducts a research study under the guidance of his advisor. This study is reported in a thesis, prepared in acceptable form and style. On approval of the thesis by the advisor, the student submits a copy to each member of his/her graduate committee.
 8. The thesis is examined by the student's graduate committee members, acting as moderators, who shall decide upon its acceptability. The moderators may confer with one another before making their decision. Each moderator shall report to the dean through the student's advisor when the thesis is acceptable for defense. The thesis is approved only if the moderators accept it unanimously.
 9. On approval of the thesis, the student appears for a final oral examination administered by the student's graduate committee (and any appointed additional moderator). The dean, or an appointee, serves as chairman of the examination committee. Final examination shall be open to the faculty, and its time and place (together with the candidate's name, department, and title of thesis) shall be announced at least seven days in advance.
 10. The final examination of an M.S. candidate includes the subject matter of course work as well as the thesis. A favorable vote, with no more than one negative vote, is required for the candidate to pass the examination. Only members of the student's graduate committee and the examiner appointed by the dean shall vote. The dean, or a faculty representative, will attend all oral examinations and will cast a vote. No examiner may abstain from voting.
 11. The candidate, having fulfilled all the requirements for the degree of Master of Science, is recommended by the dean to the president for the degree.

TRAINEESHIPS AND ASSISTANTSHIPS

In the past, the department has been able to offer a limited number of federal traineeships (stipend, tuition, and fees) and clinical assistantships (salary). These will continue to be offered as funds allow. Interested students should make inquiries to the program director.

FACULTY

Professors: Hirt (Chairman); Payton
Associate Professors: Jones; Lamb
Assistant Professors: McDonald; Newton; Ratcliff-Hill; Van Sant; Personius; Gudas

GRADUATE COURSES IN PHYSICAL THERAPY (PHT)

See page 25 for descriptions for the following allied health courses:

AHP 530 Special Topics in Allied Health.

AHP 573 Teaching in Health Professional Schools.

AHP 574 Health Education Practicum.

AHP 581 Administration in the Allied Health Professions.

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AHP 582 Supervision in the Allied Health Professions.

AHP 583 Supervisory and Administrative Practicum in Allied Health Clinics.

501 Electromyographic Kinesiology. Semester course; 2 lecture and 2 laboratory hours. 3 credits. The emphasis of this course is on the theoretical and practical aspects of the use of electromyography as a tool to observe human movement, normal and pathologic. The student will have the opportunity to consider the electronic, physiologic, and anatomic principles related to the appropriate selection of electromyographic techniques for the study of movement. Particular emphasis will be placed on data reduction methods and interpretation of data. The student will develop beginning skills in performing the techniques necessary for recording parameters involved in movement.

502 Biomechanics. Semester course; 2 lecture and 2 laboratory hours. 3 credits. This course concerns the study of the effects of forces upon normal and pathologic human form and movement. Classroom and laboratory sessions are designed to guide the student in the use of the measurement techniques necessary to form a detailed picture of moving man viewed as a mechanical system. Particular emphasis is placed on the techniques of modeling, cinematography, and electrogoniometry.

505 Foundations for Pathokinesiology. Semester course; 3 to 4 lecture hours. 3 to 4 credits. A study of the principles that form a foundation for pathokinesiology and therapeutic kinesiology. Integration of principles of human development and motor behavior with emphasis on abnormal motor behavior and its remediation will be presented.

506 Therapeutic Kinesiology. Semester course; 1 to 3 lecture and 3 clinical hours. 2 to 4 credits. A study of motor behavior in both normal and pathological conditions. Reading and discussion of the basic literature of current neurophysiological approaches to therapeutic exercise and an integration of these concepts into a comprehensive model of human movement.

507 Principles of Clinical Examination in Orthopaedic Physical Therapy. Semester course; 2 laboratory hours. 1 credit. May be repeated for a maximum of 2 credits. Principles and techniques for evaluating joint and soft tissue injuries and disabilities with an emphasis on history-taking, the Maitland Physical Format, and accessory motion testing.

508 Principles of Orthopaedic Physical Therapy. Semester course; 2 lecture hours. 2 credits. A detailed examination of the basic principles and rationale for physical therapy treatment approaches to orthopaedic problems. Principles of mobilization will be emphasized.

520 Clinical Specialty Practicum. 60 clock hours per credit. 1-9 credits. Prerequisite: appropriate courses in sciences basic to area of specialization. One semester hour's credit per 60 clinical hours. Concentrated clinical experience in the student's chosen area of specialization under the guidance of an approved preceptor.

530 Clinical Specialty Seminar. Semester course; 0.5 to 3 credits. Individual reports dealing in depth with the

history, current status, and problems in a given area of clinical specialization. It is anticipated that the student will identify several potential thesis topics in the course of preparing these reports.

540 Special Topics in Physical Therapy. 1-4 credits. Guided independent study of specific topics not discussed in other courses or discussed in less detail in other courses. Student's topic of desired study must be identified and approved prior to enrollment.

590 Physical Therapy Seminar. Semester course; 1 lecture hour. 1 credit. Reports on current problems and issues in the field of physical therapy. May be repeated for a maximum of four credits; required for two semesters.

591 Research Process. 2 lecture hours. 2 credits. Readings, discussions, and reports on the current status of professional literature and the validation of clinical practice, clinical administration, and professional education. A model for professional development, the role of research in the validation process, and the basics of research design are presented, non-mathematically. Required of all students unless excused by the faculty.

690 Research in Physical Therapy. 1-15 credits. Research in preparation for the master's degree thesis.

Department of Health Administration

HISTORY

Education in health administration at the Medical College of Virginia began in 1949 with the establishment of a graduate curriculum in hospital administration. Early graduates received a certificate; the master's degree was awarded beginning in 1955.

These early efforts grew and developed into the Department of Hospital and Health Administration which was established in 1972. The department now includes three major programs: the graduate program in health services administration; the undergraduate program in long-term and health care management; and the program in continuing education. In addition to these educational programs, the Department of Health Administration includes a growing research program and is involved in a wide range of public service activities.

DEPARTMENTAL PURPOSE, FUNCTIONS, AND GOALS

The overall purpose of the Department of Health Administration is to provide educational programs and services related to the organization and administration of health

services. In achieving that purpose, the Department's principal function is to provide high-quality education leading to careers in the administration of health care institutions, agencies, and systems. Corollary functions are to provide assistance and other services for community organizations and to conduct health services and health policy research.

To provide clear direction in the performance of these functions, the departmental faculty has adopted long-range (3-5 year) goals. These are:

1. Maintain and improve the high quality of our master's and baccalaureate degree programs.
2. Plan, gain the necessary resources, and implement a doctoral program in the fall of 1982.
3. Make a positive contribution to the education of students in other disciplines at VCU and, where appropriate, at other universities.
4. Sponsor high-quality programs in continuing education aimed at meeting clearly identified needs in the industry.
5. Develop, maintain, and improve a departmental research program that will serve to enhance the planning, organization, and management of health services in the U.S. with particular emphasis on Virginia.
6. Achieve and maintain an appropriate level of high-quality service activity aimed at meeting identified needs within VCU and in community health organizations and agencies.

Each year these long-range goals are evaluated and up-dated by the departmental faculty with the help of alumni, students, and preceptors. This annual process also generates the department's short-range (fiscal year) objectives and plans in support of the long-range goals.

FACILITIES

The Department of Health Administration's graduate program is located in Randolph-Minor Annex, an historic building located on the corner of College and Broad Streets on the MCV Campus. The department's admissions office and undergraduate program are located on the fifth floor of the Nursing Education Building.

The Medical College of Virginia Hospitals, one of the largest teaching hospitals in the nation, and MCV's other clinical facilities are readily accessible to the department's students and faculty. In addition, the department has clinical affiliations and close working relationships with a large number of health care organizations and agencies in Virginia and throughout the eastern part of the United States. The organizations and agencies are used extensively as clinical facilities in the department's educational programs.

ENDOWED AWARDS, LECTURESHIPS, AND PROFESSORSHIPS

The **Robert Hudgens Memorial Award** was established and endowed by the department's alumni association in cooperation with the American College of Hospital Administrators (ACHA). The Hudgens Award is presented annually to the person selected by a special ACHA committee as the most outstanding young hospital administrator in the United States. It is presented at the ACHA's Annual Congress each year.

The **Charles P. Cardwell Memorial Lectureship Series** was inaugurated and endowed by the department's alumni. It is held in conjunction with the ACHA's Annual Congress. The series is coordinated by a standing committee of the department's alumni association.

Endowed professorships have been established in honor of individuals who have played vital roles in the development of the Medical College of Virginia. The **Arthur Graham Glasgow Professorship of Hospital Administration** was established in 1957 in honor of Dr. Glasgow who had shown such a vital interest in hospitals.

GRADUATE PROGRAM IN HEALTH SERVICES ADMINISTRATION

Purpose

The graduate program in health services administration is designed to prepare individuals for entry-level administrative positions in complex health institutions and systems. Concurrently, it is intended to provide graduates with a solid foundation for executive development in the field of health services administration. The program's educational goals and content are based

upon the premise that a large number of students who select this curriculum aspire to become chief executive officers of health care organizations at some point in their careers. A comprehensive listing of these goals is set forth in a separate document, "Educational Goals of the Graduate Program in Health Services Administration."

The graduate program in health services administration is designed primarily for full-time students. A limited number of part-time students may be accepted into the program. The part-time program is intended primarily for persons who are already employed in the health industry. The admissions standards and degree requirements for part-time degree candidates are the same as those for full-time degree candidates.

The graduate program was initially accredited in 1955, one of the first programs in the United States to achieve that status. It has maintained this status ever since and is fully certified by the Accrediting Commission on Education for Health Services Administration.

Admission Requirements

Applications are encouraged from individuals who have earned undergraduate and graduate degrees in any discipline or field of study. However, to be eligible for admission to the graduate program, completed course work must include basic preparation in economics, accounting, and business statistics. In addition, a working knowledge of basic, college-level algebra is necessary preparation for the graduate program's courses in systems analysis and evaluation.

These foundation requirements may be met by completing specified prerequisite courses at any accredited college or university or by completing specified foundation courses within the School of Business at Virginia Commonwealth University. These requirements are:

1. Two college-level courses (6 credits) in accounting;
2. One college-level semester course (3 credits) in economics;
3. One upper-division course (3 credits) in business statistics.

Any or all of these three foundation courses may be taken in Virginia Com-

monwealth University's School of Business during the summer semester immediately prior to the fall term when the student enrolls in the graduate program in health services administration. The availability of these foundation courses provides an excellent opportunity for students without a strong background in business to fulfill the course work requirements for entrance into the graduate program. In addition, the student who has met all or some of the prerequisite requirements may strengthen his or her preparation for the graduate program by taking other foundation courses in the Business School's summer session. These include courses in marketing, business law, finance, and other areas. The foundation courses cannot be applied toward the 55 semester hours required to qualify for the M.H.A. degree.

To be considered for admission into the graduate program in full-status, the applicant must meet the following minimum qualifications: (1) present evidence of personal achievement, scholarship, intellectual ability, and professional promise; (2) hold a baccalaureate or graduate degree from a college or university which is fully accredited by the Association of American Universities or by a regional accrediting agency; (3) have an overall grade-point average of 2.75 or higher on a four-point scale in undergraduate work or provide evidence of high achievement in a substantial amount of graduate-level course work; and (4) attain a satisfactory score (at least 50th percentile) on the Graduate Record Examination Admission Test or the Graduate Management Aptitude Test.

Applicants who have completed the prerequisite course work and meet the other requirements may be admitted into the graduate program in *full status*. Students in full status are candidates for the M.H.A. degree. Full status is maintained so long as the student achieves a grade-point average of 3.0 in all course work each semester.

If an applicant presents qualifications that approximate the admissions requirements and standards, that applicant may (at the discretion of the Admissions Committee) be admitted into the graduate program on *conditional status*. Advancement to full status may be approved by the faculty when the

student has satisfactorily completed one or more semesters of graduate studies. Students admitted on conditional status may be dismissed from the graduate program at the end of their first semester of graduate studies if they have not earned at least a 3.0 grade-point average. Complete information regarding academic requirements and standards is set forth in "Academic Policies and Regulations for the Graduate Program in Health Services Administration."

Virginia Commonwealth University is a state-aided institution, and preference is given to applicants with equal qualifications who are residents of Virginia. There is no quota established, however, for Virginia versus out-of-state students. Persons from countries other than the United States may apply for admission to the department's graduate program. Foreign applicants must meet all the regular admission requirements, and score a minimum of 600 on the Test of English as a Foreign Language, and submit evidence of financial responsibility by indicating the source of funds they will require while at Virginia Commonwealth University.

Requests for further information regarding admission requirements, standards, and procedures should be sent to the dean of the School of Graduate Studies, Virginia Commonwealth University, Box 568, MCV Station, Richmond, VA 23298 or to the director of admissions, Department of Health Administration, Medical College of Virginia, Virginia Commonwealth University, Box 203, MCV Station, Richmond, VA 23298.

Transfer Credit

Students who have earned graduate credit before entering the Department of Health Administration's graduate program may be permitted, at the discretion of the faculty, to transfer a maximum of nine semester hours of credit to count toward the M.H.A. degree. Transfer credit may be allowed when, in the judgment of the faculty, the applicant has satisfactorily completed course work equivalent to courses in the graduate curriculum offered in this department. Normally, transfer credit is approved at time of admission.

All transfer credit must be at the "A" or "B" grade level from an accredited college or university. Virginia Commonwealth Uni-

versity will not accept for transfer credit any course work which does not apply to a graduate degree at the offering institutions.

Curriculum

Students are required to complete a total of 55 semester hours (including transfer credit, if any) to qualify for the Master of Health Administration (M.H.A.) degree. This requirement includes 36 hours of core course work in combination with elective studies in health services administration and related disciplines such as business administration, public administration, urban and regional planning, and gerontology. The graduate program is designed to provide a balanced combination of academic studies and field experience to enable the student to achieve the program's educational goals and become well-prepared to enter the field of health services administration.

The core curriculum of the graduate program in health services administration consists of 12 courses totalling 36 semester hours which must be completed by all degree candidates. These courses represent an integrated series of learning experiences designed to provide the student with a common body of knowledge and skills which are considered to be essential. The core courses are as follows:

| | | |
|-------------|---|---|
| HAD 602 | Health Care Organization and Services. | 3 |
| HAD 603 | Structure and Functions of Health Institutions (HAD 602 or equivalent is a prerequisite) .. | 3 |
| HAD 604 | Health Economics (HAD 602 or equivalent is a prerequisite) .. | 3 |
| BUS 608 | Managerial Accounting | 3 |
| HAD 606 | Financial Management in Health Institutions (BUS 608 or equivalent is a prerequisite) .. | 3 |
| HAD 609-610 | Health Systems Analysis and Evaluation I and II. | 6 |
| HAD 611 | Hospital and Medical Law (or, for students with particular interest in long-term care administration, HCM 506 Long-Term Care and Medical Law) | 3 |
| HAD 614 | Health Planning and Policy (HAD 604 or equivalent is a prerequisite) | 3 |
| HAD 646 | Organizational Behavior in Health Institutions (HAD 602 or equivalent is a prerequisite) .. | 3 |
| HAD 647 | Administration in Health Institutions (HAD 646 or equivalent is a prerequisite) .. | 3 |

By combining advanced courses in health services administration and related disciplines, each student is able to pursue his or her individual interests and career goals through the development of specialized knowledge and skills in a particular area of concentration. These areas of concentration represent major areas of specialization within the field of health services administration.

Students may select their concentrations at the time they enter the graduate program or at a later point in their graduate studies. All areas of concentration require a minimum of 12 semester hours of designated courses within the Department of Health Administration or other schools. A broad range of courses is available within each area of concentration. In addition to course work, students ordinarily will complete an administrative residency within a health care organization related to their area of concentration.

Areas of concentration that are available within the graduate program in health services administration include:

1. Administration of hospitals and hospital systems;
2. Administration of long-term care facilities;
3. Administration of mental health programs, institutions, and systems;
4. Health planning and policy with emphasis upon planning in the institutional setting;
5. It may be possible for other areas of concentration to be developed by students in concert with their faculty advisor and the director of the graduate program.

ADMINISTRATIVE RESIDENCY

Purpose of the Residency

The administrative residency is an integral part of the Medical College of Virginia's graduate program in health services administration. The basic purpose of the residency is to provide students opportunities to apply and further develop their administrative knowledge and skills through

a period of applied experience in an operational setting. The administrative residency is directly supervised by experienced executives who serve as the student's preceptors.

Through a carefully selected and well-organized residency experience, the student strengthens the foundation of general knowledge and skills gained through the core curriculum and gains further insight and expertise in his or her selected concentration. The student will serve his or her residency in the type of health care organization in which he or she wishes to gain specialized knowledge, skills, and experience. Overall policies and guidance for the administrative residency are established by the Department of Health Administration.

Appointment to the Residency

The student becomes eligible for entrance into the administrative residency after completing specified course work and achieving an overall G.P.A. of 3.0. Students on academic probation because of their performance during their final on-campus semester prior to their residency may, at the discretion of the faculty, be prevented from entering their residency even though their overall G.P.A. is 3.0 or higher.

In addition to satisfactory academic performance, the student must, in the judgment of the faculty, give evidence of sufficient maturity to constitute readiness for a clinical experience. The student is, of course, expected to demonstrate maturity and meet high standards of professional conduct throughout the educational process.

The director of the graduate program in health services administration has the responsibility to make residency assignments. In making these assignments, the director will consider the preferences of the students, the preferences of the preceptors, and the recommendations of faculty advisors.

Graduate students will occasionally have educational interests and needs that are unlikely to be met fully through serving their residency in one of the graduate program's approved residency locations. In these situations, the faculty will exercise reasonable efforts to develop a special residency situation for the student. The student may be expected

to participate actively in these efforts.

The length of the administrative residency is variable, depending upon the student's background and experience. For most students, the residency will be 11 months in length. Students who have had at least two years of prior experience in responsible management positions within health care organizations or agencies may petition the faculty to waive this requirement or reduce it to three months. Normally the faculty will determine and specify the minimum length of the student's residency requirement at the time he or she is accepted into the graduate program.

On-campus Commitments During the Residency

During the residency phase of the graduate program, the student must attend regularly scheduled, on-campus seminars. During these seminars the student will participate actively in other educational activities associated with course work (HAD 701, HAD 703, or HAD 704) taken during the residency period.

Residency Policies and Procedures

A complete statement of academic policies and procedures relating to the administrative residency phase of the graduate program is set forth in "Administrative Residency Policies and Procedures," Section VI of the *Academic Policies and Regulations for the Graduate Program in Health Services Administration*.

Length of the Program

The curriculum is designed to provide the student with some flexibility in determining the pace and length of his or her program of studies. Full-time students ordinarily will begin their studies in the graduate program during the Fall semester and complete their course work requirements within 21 months. For most students this portion of the graduate program will be followed by an administrative residency of ten months in length.

The total program of studies can be completed in 21 months or less by some students. Depending upon their educational background and experience, the pace of studies they elect, and the length of their residency

requirement (if any), some students will be able to complete all requirements and receive the M.H.A. degree within 21 months after enrolling in the graduate program. Under special circumstances, it will be possible for a student to complete all degree requirements within a period of 16 months.

REQUIREMENTS FOR GRADUATION

To qualify for the M.H.A. degree, the student must meet the following requirements: (1) achieve an overall grade point average of 3.0 on a four-point scale for all graduate curriculum course work; (2) satisfactorily complete all requirements of the administrative residency including required course work taken during the period; (3) pass a comprehensive examination administered near the end of the student's graduate program; and (4) in the judgment of the faculty, demonstrate sufficient maturity and development to constitute readiness to enter the profession of health administration.

Degrees are usually conferred at commencement exercises of the university in May.

ACADEMIC POLICIES AND REGULATIONS

Academic policies and regulations for the graduate program in health services administration and the program in long-term and health care management are set forth in separate documents published by the Department of Health Administration. These departmental documents, as well as publications that state university-wide policies and regulations, may be obtained by the applicant at the time of the interview at the Medical College of Virginia Campus.

PROGRAM OF CONTINUING EDUCATION

The Department of Health Administration's involvement in continuing education began in the early 1970's with the assistance of a grant from the W. K. Kellogg Foundation that included continuing education as a principal component. The basic purpose of the department's program of continuing education is to provide educational services for persons who have administrative responsibilities in hospitals, medical centers, multi-unit systems, nursing homes, and other

health care organizations and agencies. During 1979-80 the department sponsored 58 continuing education conferences, seminars, and institutes which served 2,731 participants and provided 19,679 contact hours of instruction. The departmental faculty is committed to continuing education as a fundamental responsibility of the department.

FACULTY

Professors: Barker; Cullen; Norville
Adjunct Professor: Wiecking
Associate Professors: Larson; Modrow
Adjunct Associate Professor: Witherspoon
Assistant Professors: Breindel; Heck; O'Neil; Shukla
Instructor: Towner
Adjunct Instructors: Fraley; Gump; Schrock
Adjunct Lecturers: Cauble; Scott

GRADUATE COURSES IN HEALTH ADMINISTRATION (HAD)

600 Hospital and Medical Care Organization. Semester course; 3 lecture hours. 3 credits. Intended for students seeking degrees in disciplines other than health care administration and for special students who wish to learn about the health industry and health care organizations. Provides an overview of the health industry. Examines the organization and operations of major health care organizations with particular emphasis on hospitals.

602-603 Health Care Organization and Services, and Structure and Functions of Health Institutions. Continuous course; 6 lecture hours. 6 credits. Examines the structure and functions of the American health care industry; examines the concepts and processes of health and illness; examines the institutional and individual providers of health services; and examines the organization, function, and administration of hospitals, medical center, and other major forms of health care institutions.

604 Health Economics. Semester course; 3 lecture hours. 3 credits. Develops an understanding of: (1) economics as a managerial tool in making choices or decisions that will provide for an optimum allocation of limited health care resources; and (2) economics as a way of thinking about and approaching issues of public policy in financing and organizing health and medical services. Individual research on crucial or controversial economic issues in the health field.

606 Financial Management in Health Institutions. Semester course; 3 lecture hours. 3 credits. Prerequisites BUS 608 and HAD 609. A theoretical and practical study of organization and functions of health care financial administration. Emphases are on institutional fiscal policies, accounting concepts and practices, internal and external controls, financial statistical reporting, and the use of financial data as management tools.

607 Advanced Financial Management in Health Institutions. Semester course; 3 lecture hours. 3 credits. Prerequisite: HAD 606. Advanced practices of health care financial management. Emphasis on techniques to aid in financial decision making. Areas of investigation

and study include analysis of financial statements, cost allocations, reimbursements, rate setting, budgeting, and capital financing.

608 Seminar in Health Care Finance. Semester course; 3 lecture hours. 3 credits. Prerequisite: HAD 607. Advanced studies of financial issues and the application of analytic tools in case studies and exercises. Designed to enhance and strengthen the knowledge and skills provided in the graduate program's foundation and required courses in accounting and finance.

609-610 Health Systems and Evaluation I and II. Continuous course; 6 lecture hours. 6 credits. Prerequisite: upper division course in business statistics. This is a two course sequence required for M.H.A. degree candidates. Provides instruction in systems theory, hospital and medical care information system, systematic approaches to the evaluation of health care services and programs and the application of selected analytical methods in administrative planning, decision making and control in health care organizations.

611 Hospital and Medical Law. Semester course; 3 lecture hours. 3 credits. Examines basic principles and practices of law affecting hospitals and medical practice: the legal aspects of patient care and treatment, medical services, and other hospital-patient related functions.

614 Health Planning and Policy. Semester course; 3 lecture hours. 3 credits. Prerequisite: HAD 604. Examines the planning process in the context of both the community and the institution. Considers the essential components of planning and the development of a sound structure for planning. Examines the legal, regulatory, economic, and human factors that influence the planning process.

616 Seminar in Applied Health Planning. Semester course; 3 lecture hours. 3 credits. Prerequisite: HAD 614. Provides students with opportunities to apply planning methodology, including problem definition, research design, information gathering, and evaluation to actual health issues and problems.

617 Health Facility Design and Construction. Semester course; 3 lecture hours. 3 credits. Prerequisite: HAD 614. Examines the essential elements and process of designing and constructing health facilities.

623 Psychological Aspects of Illness and Disability. Semester course; 3 lecture hours. 3 credits. An introduction to the psychological aspects of illness and disability. Focuses on behavioral reactions to illness and disability, patient and societal attitudes, psychosomatic illness, and psychological factors in treatment and care.

646 Organizational Behavior in Health Institutions. Semester course; 3 lecture hours. 3 credits. Prerequisite: HAD 602 or permission of instructor. Focuses on the major concepts, principles, and theories of management and behavioral sciences as they relate to human behavior in health care institutions and agencies.

647 Administration in Health Institutions. Semester course; 3 lecture hours. 3 credits. Prerequisites HAD 603 and HAD 646. Analysis of the current state of management study and practice with the objective of achieving a balanced development of both knowledge

and skills in solving the human problems of administration in health institutions. The managerial process is critically examined with emphasis on individual behavior and development, intergroup behavior, and behavior in the total organization.

648 Seminar in Health Services Administration. Semester course; 3 lecture hours. 3 credits. HAD 603. Case studies and problem-solving exercises intended to integrate the knowledge and skills gained in prior course work.

652 Comparative Health Systems. Semester course; 3 lecture hours. 3 credits. Examines the structure and functions of health care systems in nations other than the United States.

658 Personnel and Labor Relations in Health Institutions. Semester course; 3 lecture hours. 3 credits. Examines the procurement, development, and maintenance of an effective work force. An analysis of staff development; health and safety; wage and salary administration; employee services; and labor relations.

662 Health Care Politics and Policy Analysis. Semester course; 3 lecture hours. 3 credits. Examines the political process with particular emphasis on the impact of politics on health care. Focuses on current political issues in the health field, examining conflicts and anticipating effects on the health system.

668 Independent Study in Health Services Administration. Variable credit. Offered in all semesters for students to investigate and study topics of major interests.

698 Thesis I. 3 credits. Independent research to provide the opportunity for the student to select, organize, and report the results of an investigation in a field of major interest.

699 Thesis. 2 credits. Prerequisite: HAD 698. Continuation of research study begun in HAD 698.

799 Topical Seminar in Health Services Organization and Research. 3 lecture hours. 3 credits. Prerequisite: two semesters of graduate work and permission of instructor. A seminar on the current state of knowledge and research within specialized areas of concern related to health services organization, planning, and assessment.

701, 703, 704 Problems and Issues in Health Services Administration. 2 credits each. Prerequisite: admission to the administrative residency. Examination of contemporary problems and issues in the organization, administration, and evaluation of health services. A principal focus is the application of alternative approaches to administrative problem solving. Special emphasis is placed on understanding of and appreciation for the internal and external factors that influence decision making in health care organization.

For descriptions of courses in other schools and departments, see the current *Virginia Commonwealth University Graduate Bulletin* and/or *Virginia Commonwealth University Undergraduate Bulletin*.

Department of Nurse Anesthesia

BASIC PROFESSIONAL PROGRAM HISTORY

The Department of Nurse Anesthesia was organized in 1969 and was the first new teaching program to be implemented in the newly organized School of Allied Health Professions at the Medical College of Virginia. The Master of Science degree in nurse anesthesia is the first such offering through a School of Allied Health Professions in the United States—a significant milestone for the profession of nurse anesthesia. The next milestone to be realized was the approval of the post-graduate certified registered nurse anesthetist (CRNA) program.

PHILOSOPHY

The Department of Nurse Anesthesia believes that the master's degree level of education is fundamental to preparing diversified clinical practitioners, future teachers, coordinators, and directors of nurse anesthesia educational programs. We view nurse anesthesiology as an expanded role of nursing in which the nurse anesthetist provides nursing and medically delegated services, instruction, evaluation, direction of nurse anesthesia services, and teaching educational processes. We believe that professional competence is based on self awareness, an appropriate value system, and the possession of cognitive process capabilities. We believe that clinical teaching, acquisition of clinical skills, competence, and safe practice can best be promoted when the curriculum design supports the philosophy of practice, and that the ability to utilize and retain theoretical knowledge is best facilitated through reinforcement from a variety of directions.

OBJECTIVES

The overall objective of the Department of Nurse Anesthesia is to prepare registered professional nurses for practice in the specialty art and science of anesthesiology.

This rather broad objective is accomplished by implementation of the following:

1. An in-depth presentation of the basic sciences associated with anesthesia practice, with emphasis on understand-

- ing the practical application of concepts.
2. Focusing attention on the ultimate role of the nurse anesthetist as a member of the health team.
 3. Providing integration of the clinical and didactic teaching programs so that the two are closely correlated throughout the course of study.
 4. Placing emphasis on the great need for educators in the field, and encouraging those whose talents are oriented to pursue this goal.
 5. Encouraging continued professional education by self-study and discipline, recognizing that these are the only keys to total professional maturity.
 6. Providing the student with a challenging and diverse selection of surgical and resuscitative experiences with opportunity for constant criticism and evaluation.

ACCREDITATION

The nurse anesthesia program is fully accredited by the Council on Accreditation For Nurse Anesthesia Educational Programs. The graduate is eligible to take the examination for certification by the American Association of Nurse Anesthetists.

Admission Requirements

In addition to the general university requirements, the requirements for admission to the Master of Science in nurse anesthesia are:

1. Baccalaureate degree in nursing or equivalent (a related basic science degree and graduate of an NLN accredited school of nursing).
2. Current licensure as a registered professional nurse in Virginia.
3. A 3.0 grade point average is preferred (other factors may be considered).
4. An average of 500 on State Board Examinations with no area below 450.
5. Three semester hours of college statistics—preferably biostatistics.
6. Completion of the Graduate Record Examination (GRE) verbal, quantitative, and analytical.
7. A minimum of one year (two years preferred) experience in an area of acute care nursing. Partial credit is

granted for emergency room and recovery room experience. No credit for operating room nursing experience.

8. Personal interview with members of the Admissions Committee. Further inquiries should be made to the Office of the Dean, School of Graduate Studies, Virginia Commonwealth University, Box 568, MCV Station, Richmond, VA 23298.

Curriculum

| First Year, Fall Semester | | Credits |
|------------------------------|---|---------|
| NUA 501 | Fundamentals of Anesthesia Practice | 3 |
| PHC 521 | Medicinal Chemistry for Nurse Anesthetists I | 4 |
| PMC 515 | Pharmacology for Nurse Anesthetists I | 3 |
| PIO 501 | Advanced Mammalian Physiology . . | 5 |
| | | 15 |
| First Year, Spring Semester | | |
| NUA 531 | Regional Anesthesia | 2 |
| PHC 522 | Medicinal Chemistry for Nurse Anesthetists II | 3 |
| PMC 516 | Pharmacology for Nurse Anesthetists II | 3 |
| NUA 533 | Pathophysiology: Anesthetic Considerations | 3 |
| NUA 535 | Historical Development of Anesthesia | 1 |
| NUA 591 | Clinical Practicum I | 1 |
| | | 13 |
| First Year, Summer Semester | | |
| NUA 551 | Advanced Practice and Principles of Anesthesia | 4 |
| NUA 553 | Biomedical Instrumentation for Nurse Anesthetists | 2 |
| NUA 555 | Professional Aspects of Anesthesia Practice | 2 |
| NUA 592 | Clinical Practicum II | 5 |
| | | 13 |
| Second Year, Fall Semester | | |
| NUR 611 | Methods of Research | 3 |
| NUR 612 | Research Seminar in Nursing | 1 |
| NUA 581 | Physical Assessment | 3 |
| AHP 573 | Teaching in Health Professional Schools | 3 |
| NUA 693 | Clinical Practicum III | 4 |
| | | 14 |
| Second Year, Spring Semester | | |
| HCM 502 | Management in Health Care Facilities | 3 |
| NUA 631 | Senior Clinical Seminar | 1 |
| NUA 681 | Clinical Project I | 4 |
| NUA 631 | Senior Clinical Seminar | 1 |

| | | |
|---------|--|----|
| AHP 574 | Allied Health Education Practicum I | 1 |
| NUA 694 | Clinical Practicum IV | 4 |
| | | 14 |

Second Year, Summer Semester

| | | |
|---------|----------------------------|----|
| NUA 682 | Clinical Project II | 2 |
| NUA 695 | Clinical Practicum V | 5 |
| | Elective | 3 |
| | | 10 |

FACULTY

Medical Advisor: Boyan

Associate Professor: Watson (Chairman)

Assistant Professors: Balcerak; Beeston; Shalenko;
Williams

Instructors: Embrey; Hahn; Keohane; Montesanti;
McDougle; Vining

GRADUATE COURSES IN NURSE ANESTHESIA (NUA)

501 Fundamentals of Anesthesia Practice. Semester course; 3 lecture, 5 clinical, and 1 laboratory hour. 3 credits. This course introduces the beginning practitioner to those concepts necessary to plan and execute an anesthetic individualized for a patient which insures a margin of patient safety while meeting the surgical requirements. Integrated in this course are selected concepts of respiratory therapy which interface with anesthesia. (Program enrichment includes a four-week clinical affiliation in respiratory therapy.)

531 Regional Anesthesia. Semester course; 2 lecture hours. 2 credits. A study of the theoretical and practical considerations involved in the administration and management of regional analgesia: neuroanatomy, neurophysiology, neuropharmacology, indications, contra-indications, techniques, complications, and their prevention related to selected blocks. (Clinical anesthesia practicum will include practical experience in the administration and/or management of selected blocks).

533 Pathophysiology. Semester course; 3 lecture hours. 3 credits. Pathophysiology of the neuromuscular, cardiovascular, respiratory, excretory, and endocrine systems; infectious diseases, gastro-intestinal disorders; nutritional disorders; connective tissue diseases; muscle, skin, bone disorders; and environmental and behavioral disorders. The pathophysiology will be studied in relationship to anesthetic considerations.

535 Historical Development of Anesthesia. Semester course; 1 lecture hour. 1 credit. A study of the history of anesthesia, to include the evolutionary stages of the development of anesthesia and the professional organizations: The American Association of Nurse Anesthetists and the American Society of Anesthesiologists.

551 Advanced Practice and Principles of Anesthesia. Semester course; 4 lecture hours. 4 credits. This course delineates those practices and techniques of anesthesia management which are considered as situation-specific for specialized surgical procedures, diagnostic, or

therapeutic procedures; includes the obstetrical, pediatric, and geriatric patient.

553 Biomedical Instrumentation for Nurse Anesthetists. Semester course; 2 lecture hours. 2 credits. A course surveying the basic essentials of biomedical instrumentation as utilized in those electronic devices most often encountered by nurse anesthetists; to include a brief descriptive review of the basic laws of electrical circuits and the physical principles of biophysical measurement.

555 Professional Aspects of Anesthesia Practice. Semester course; 2 lecture hours. 2 credits. This course includes five specific areas of professional focus: psychosocial, ethics, legal aspects, organization and management of an anesthesia department, and basic life support (CPR) for health professionals.

581 Physical Assessment. Semester course; 3 lecture hours. 3 credits. A didactic and laboratory study of the physical examination to provide the graduate with the capability of performing a screening, pre-anesthesia examination aimed at identifying pathology rather than diagnosing particular disease entities, to include taking an appropriate health history.

585 Pharmacology of Anesthetic Agents and Adjunct Drugs. Semester course; 3 lecture hours. 3 credits. A comprehensive study of pharmacokinetic theory and its clinical application to those drugs/agents used in anesthesia practice. (Advanced Course for CRNAs.)

591 Clinical Practicum I. 9 clinical hours. 1 credit. Pre-operatively conducts interviews, prepares anesthesia care plans with selection of anesthetic agents and techniques, calculates fluid requirements. Is introduced to clinical area with supervised participation in actual administration of anesthesia. Demonstrates knowledge of equipment and monitors skills, dexterity, and ability to integrate physiological data in anesthesia management, its termination and post-anesthetic care.

592 Clinical Practicum II. 40 clinical hours. 5 credits. Continuation of NUA 591. Demonstrates internalization of theoretical concepts and techniques and application in anesthetic management. Emphasis on assuming greater responsibility for total anesthetic regime. Progresses to a greater variety and more complex anesthetic managements, to include pm, nights, and weekend duty. Gains experience in emergency and acute trauma surgery.

681 and 682 Clinical Project I and II. 6 credits. Required of all students, the independent clinical project provides the student the opportunity to select, organize, and report the results of an investigation into some specific area of interest to clinical anesthesiology. The project study will be written in a publishable format.

693 Clinical Practicum III. 30 clinical hours. 4 credits. Continuation of NUA 592. Intensive clinical experience in each of the clinical anesthesia areas. Greater emphasis is placed on development of independent decision making in planning, managing, terminating, and follow-up anesthesia care. Includes rotation of clinical experience to include affiliations at Richmond Memorial, Crippled Childrens, St. Luke's (respiratory therapy), and Veterans Administration hospitals to gain experience in

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management of specialized anesthetic considerations, and functioning in a variety of clinical settings in conjunction with certified registered nurse anesthetists and staff attending anesthesiologists. Assesses clinical experience and plans for anesthesia project.

694 Clinical Practicum IV. 30 clinical hours. 4 credits. Continuation of NUA 693. Affiliations to specialized areas continue. Beginning to function with minimum of supervision from certified registered nurse anesthetists and attending staff anesthesiologists. Pursues independent library research and collects clinical data to support anesthesia project.

695 Clinical Practicum V. 40 clinical hours. 5 credits. Continuation of NUA 694. Intensive application of all previous clinical experiences to demonstrate development of independent thought and judgment and ability to function with minimum of supervision. Correlates clinical data with anesthesia project in preparation for presentation. Reviews all clinical experiences in preparation for writing of qualifying examination of American Association of Nurse Anesthetists. All clinical requirements are completed.

POST GRADUATE—CERTIFIED REGISTERED NURSE ANESTHETIST (CRNA Program)

The Department of Nurse Anesthesia offers, based on advanced standing, a Master of Science in nurse anesthesiology for the certified registered nurse anesthetist (CRNA).

PHILOSOPHY

The post graduate CRNA program philosophy is in concurrence with that stated in the basic graduate program. It is further believed that the curriculum as planned provides the post graduate CRNA a greater depth of study in the basic sciences and anesthesiology.

This central focus on expanded knowledge in clinical anesthesia practice will be ultimately reflected in improved overall patient care.

The curriculum is further enriched to provide the clinical specialist/practitioner in nurse anesthesia with beginning skills in educational instruction, departmental management, research, and consultation.

Curriculum

Three semesters (12 months)

Fall Semester

| | |
|---------|---|
| PIO 501 | Advanced Mammalian Physiology |
| AHP 573 | Teaching in Health Professional Schools |

| | |
|---------|---------------------|
| NUA 581 | Physical Assessment |
| NUR 611 | Methods of Research |

Spring Semester

| | |
|---------|---|
| HCM 502 | Management and Health Care Facilities |
| PMC 516 | Pharmacology of Anesthetic Agents/Adjuncts |
| PHC 522 | Medicinal Chemistry for Nurse Anesthetists II |
| NUA 531 | Regional Anesthesia |
| NUA 533 | Pathophysiology: Anesthetic Considerations |
| AHP 574 | Allied Health Education Practicum I |
| NUR 612 | Research Seminar in Nursing |
| NUA 681 | Clinical Project I |

Summer Semester

| | |
|---------|---|
| NUA 553 | Biomedical Instrumentation for Nurse Anesthetists |
| NUA 551 | Advanced Practice and Principles of Anesthesia |
| NUA 631 | Advanced Senior Clinical Seminar |
| NUA 682 | Clinical Project II |
| NUA 696 | Advanced Clinical Practicum |

Admission Requirements

Requirements for admission to the Master of Science in nurse anesthesiology for the post graduate certified registered nurse anesthetist (CRNA):

1. A baccalaureate degree in nursing or equivalent (a related basic science degree and graduate of an NLN accredited school of nursing).
2. Graduation from a nationally accredited educational program in nurse anesthesia.
3. Certification by national examination as a certified registered nurse anesthetist (CRNA).
4. Current recertification as a CRNA by the National Council on Recertification for Certified Registered Nurse Anesthetists.
5. Current licensure as a registered professional nurse in Virginia.
6. A 3.0 grade point average is preferred (other factors may be considered).
7. Acceptable scores on the Graduate Record Examination (GRE) Aptitude Test.
8. A college statistics course (4 quarter hours or 3 semester hours), preferably biostatistics.
9. Prerequisite to NUA 532 Medicinal Chemistry II: 4 quarter hours or 3

semester hours each in biochemistry and organic chemistry.

10. A minimum of one year's experience as a certified registered nurse anesthetist (CRNA).
11. References from current supervising nurse anesthetist (CRNA), chairman/chief anesthesiologist, and one other.
12. Personal interview with members of the Admissions Committee.
13. Proficiency Examination (Advanced Standing).

Advanced Standing

Advanced standing is based on the following criteria:

1. Graduation from a nationally accredited educational program in nurse anesthesia.
2. Certification by national examination as a certified registered nurse anesthetist CRNA.
3. Current recertification as a CRNA by the National Council on Recertifica-

tion for Certified Registered Nurse Anesthetists.

4. Proficiency examination. Part A—Written: 100 multiple choice objective questions Part B—Oral: two anesthesiologists and two CRNA graduate faculty.

Advanced standing of one third (25 SH) of the generic Master of Science degree in nurse anesthesiology curriculum (75 SH) will be awarded for the following courses (non-transferable to the VCU transcript):

| | <i>Credits</i> |
|--|----------------|
| NUA 501 Fundamentals of Anesthesia Practice..... | 3 |
| NUA 535 Historical Development of Anesthesia | 1 |
| NUA 555 Professional Aspects of Anesthesia Practice..... | 2 |
| NUA 591 Clinical Practicum I..... | 1 |
| NUA 592 Clinical Practicum II..... | 5 |
| NUA 693 Clinical Practicum | 4 |
| NUA 694 Clinical Practicum | 4 |
| NUA 695 Clinical Practicum | 5 |
| | 25 |



PART III—School of the Arts

ADMINISTRATIVE OFFICERS

MURRY N. DePILLARS, B.A., M.A., Ph.D.

Dean

ROBERT F. HESTER, B.S., M.A.

Associate Dean

THOMAS DeSMIDT, A.A., B.F.A., M.F.A.

Assistant Dean

WILLIAM STEWART, B.F.A., M.Ed., D.Ed.

Director of Graduate Studies

The School of the Arts of Virginia Commonwealth University had as its beginning a sculpture course offered in 1926. In 1928 a one-faculty art department was formed under the direction of Miss Theresa Pollak and since that date has grown to its present organization, achieving national recognition through its quality program in the visual and performing arts.

In 1969 the Department of Dramatic Art and Speech and the School of Music, formerly independent units within Virginia Commonwealth University, were combined with the School of Art to form the present School of the Arts.

The School of the Arts is accredited by the National Association of Schools of Art and the National Association of Schools of Music and offers a rich and unique concept of graduate study for students in the fine and performing arts. It is one of the few state-aided professional art schools in the nation with a professional curriculum within a combined academic and professional environment. Located within an urban complex of

higher education, students are provided with the advantages of comprehensive facilities as well as professionally competent faculty.

The rapidly growing graduate program offers advanced degrees in ten departments in the following areas of study:

Master of Arts, Art History

Historical

Museology

Master of Fine Arts

Crafts

Ceramics

Furniture Design

Glassworking

Jewelry or Metalworking

Textiles

Design

Interior Environments

Photography/Film

Visual Communications

Painting and Printmaking

Theatre

Acting

Costume Design

Directing

Dramaturgy

Stage Design/Technical Theatre

Theatre Education

Master of Music

Applied Music

Church Music

Composition - Theory

Conducting

Education
Music History and Literature
Piano Pedagogy
Master of Music Education

The School of the Arts has a full-time faculty of 146.

GRADUATE STUDENT STATUS

The School of the Arts recognizes two categories of graduate students. The first is comprised of those who are accepted provisionally or as regular students into the graduate degree programs of the various departmental areas. These students are considered regular or continuing graduate students and may matriculate full-time or part-time except for the residence limitation discussed elsewhere in this bulletin. The second category is that of the special graduate student.

Holders of the baccalaureate degree from recognized institutions may enroll in graduate courses as special graduate students, but such courses are not applicable toward a graduate degree from this institution unless the student is accepted into a graduate degree program prior to the conclusion of the semester in which the student registered as a special graduate student. This consideration is intended solely to give those graduate degree applicants whose expectation of eventual acceptance into a graduate degree program is high an opportunity to begin graduate work while their application material is being completed and processed.

Holders of the baccalaureate degree who wish to take graduate work for their own enrichment, but who do not intend working in a graduate degree program toward a graduate degree are also considered special graduate students. Students who have made application to a graduate degree program who cannot be accepted without remedial, additional, or provisional course work and who wish to come to this institution to take such course work are also considered special graduate students. Normally in the School of the Arts such work is taken at the undergraduate level. Special graduate

students must have written permission to enroll in undergraduate or graduate courses from the director of graduate studies and the chairman of the appropriate department.

ADMISSION PROCEDURE

Applications for admission to graduate degree programs in the School of the Arts may be obtained in person or by mail from the Office of Graduate Studies, School of the Arts, Virginia Commonwealth University, 325 North Harrison Street, Richmond, VA 23284.

ADMISSION REQUIREMENTS

- A. For all degrees — M.A., M.A.E., M.F.A., M.M., and M.M.E.
 1. Applicants should hold the baccalaureate degree from an accredited institution.
 2. It is expected that applicants will have a 3.0 (B) average on the last 60 semester hours of undergraduate work.
 3. The Miller Analogies Test¹ or the Graduate Record Examination is required of all applicants except those for art history and music. The Graduate Record Examination is required of applicants for art history. An entrance examination is required of applicants for music and is included with the application material.
- B. The prospective student should consult with the appropriate section of this bulletin for additional admission requirements for a particular degree program.

ADVISING

All students accepted into advanced degree programs must make an appointment with the chairman of the department prior to registration for their first semester of course work. Normally the student's advisor will be the chairman of the department, but students may be assigned an advisor more directly related to their areas of concentration.

Students are also encouraged to consult with the faculty members outside their major area and utilize facilities and equipment available in other departments.

¹By appointment with the Department of Psychology, or at most other universities. The Miller Analogies Test is a high-level mental ability test which requires the solution of a series of intellectual problems in the form of analogies, mostly verbal.

REGISTRATION

Graduate art students are urged to plan their schedules and register during advance registration. Registration materials for students accepted into advanced degree programs are available through the registrar's office during the advance registration and registration periods. The advantage of advance registration is that of securing places in classes before they are closed and of obtaining proper counsel from advisors. All graduate students must see their assigned advisors for schedule planning and signature approval. New special graduate students or those contemplating registration as such must secure written permission to register from the director of graduate studies, the School of the Arts.

CONTINUOUS ENROLLMENT POLICY FOR GRADUATE STUDENTS

A candidate for any advanced degree requiring a thesis, after completing all formal course work, must register for at least one semester hour of credit in ART 701 Thesis each term, except summer, until the thesis is completed. If the graduate degree candidate expects to avail himself of the faculty and the resources of the university in the preparation of the thesis during a summer term, he must register for one semester hour during that term also.

A candidate for the M.F.A. in crafts, painting and printmaking, and sculpture, after completing all formal course work, must register for at least one semester hour credit in an appropriate graduate seminar each term, except summer, until the graduate exhibition is presented and documented.

A candidate for the M.M.E. degree, after completing all formal course work, must register for at least one hour of MUE 687 Research Assessment and Music Interaction each term, including summer, until the required research report is completed.

The grade of "NC" is awarded for credit needed by all candidates to be continuously enrolled, except for those in the M.F.A. in painting and printmaking who are awarded a letter grade.

SPECIAL CHARGES

All graduate students enrolled in full-time degree programs (nine semester hours or more) are charged a comprehensive lab fee of \$40 each semester. Graduate students enrolled part-time in degree programs (less than nine semester hours) are charged a comprehensive laboratory fee of \$20 each semester. No comprehensive laboratory fee is charged students who are registered only in course work to complete thesis or to satisfy the one credit requirement for continuous enrollment. Special graduate students enrolled in any of the numerous courses which require an additional outlay for materials will be billed for those individual fees by the Office of Student Accounts.

FINANCIAL AID

The School of the Arts awards a limited number of graduate assistantships to full-time students. Applications should be made directly to the chairman of the department in which the applicant proposes to major.

When funds are available, the Office of Graduate Studies of the School of the Arts also awards a limited number of scholarships to degree-seeking graduate students who are residents of Virginia. Announcements are posted and applications are available for these awards at the beginning of each academic year.

ADVANCED DEGREE CANDIDACY

Students seeking an advanced degree in all programs except art history must apply for advanced degree candidacy. Those seeking the M.A.E., the M.M., the M.F.A. in crafts, and the M.F.A. in design must make application during or after the completion of the first nine semester credits of graduate work and prior to the completion of 16 semester credits. Those seeking the M.F.A. in painting and printmaking, the M.F.A. in sculpture, and the M.F.A. in theatre must make application during or after the completion of the first 15 semester credits of graduate work and prior to the completion of 24 semester credits. Applications for candidacy are made on form (2.1)² which is available in the Office of Graduate Studies, School of the Arts. There are two criteria for

²This procedure must be followed by the student before November 1 of the fall semester or before March 1 of the spring semester.

admission to candidacy. These are (a) certification by the department in which the applicant is matriculating that the applicant has met departmental expectations, and (b) the attainment of the minimal 3.0 (B) average. Ordinarily the department will arrange an examination and/or review of creative work or performance as the basis of its judgment. Upon the successful completion of a minimum of nine credit hours of course work and upon certification by the department involved that the student is prepared adequately to continue his degree program, the School of the Arts will admit the student to candidacy. Admission to degree candidacy is not an automatic process, the application for candidacy is approved by the department only after careful evaluation of all pertinent factors.

Students who are found inadequately prepared to continue their graduate programs will be advised to supplement the program minima with additional course work and candidacy will be suspended until the supplemental program requirements are met. Students whose tests, grade-point-average, and/or creative work demonstrate conclusively no likelihood of a successful completion of a graduate degree program will not be admitted to candidacy by the School of the Arts. Admission to an advanced degree program does not constitute admission to advanced degree candidacy.

SCHOOL OF THE ARTS RESIDENCY REQUIREMENTS

Candidates for the Master of Fine Arts degree in crafts, painting and printmaking, sculpture, and theatre must complete a minimum of one third of their degree program semester-hour credits within one calendar year, either at the beginning or toward the end of their program of study.

Candidates for all master's degrees in the School of the Arts have five years plus two possible extensions of one year each to complete all degree requirements. The above limitations apply to both full- and part-time students. A petition for an extension is initiated with the academic or thesis advisor.

ADVANCED DEGREE REQUIREMENTS

1. Candidates must achieve no less than a

"B" in each major course and a "B" average in the degree program as a whole.

2. A maximum of nine graduate credits may be transferred from other accredited institutions and applied to any of the graduate degree programs in the School of the Arts upon approval by the director of graduate studies.
3. A thesis is a requirement for all advanced degree programs in the School of the Arts except for the M.A.E. in art education (optional), the M.F.A. in the visual arts, and the M.M.E. in music. The thesis is undertaken and developed in the context of the course ART 701 and carries from three to six credits. Depending on the discipline involved, the thesis may be essentially scholarly or creative in content and form. In either instance, the written thesis or the thesis statement (when the thesis involves creative works or performance) is done in a form that can be retained by the university. A thesis proposal must be submitted and approved by the chairman of the department and a thesis committee appointed before the candidate enrolls in ART 701. In most cases the thesis committee is composed of the candidate's thesis advisor, a departmental reader, and the director of graduate studies.

Candidates for the M.A. degree in art history should contact the Department of Art History for specific information and procedures for completing the thesis requirement.

After enrolling in ART 701, the candidate should obtain a copy of *The Preparation of Thesis* from the Office of Graduate Studies. This information sheet describes the stages in submission of thesis to the candidate's committee, the proper typing paper and reproduction process, the stylebook to be used, binding information, etc. When the thesis is completed, a final examination is arranged. This examination, which includes a defense of the thesis, is oral in nature. At the conclusion of the successful final examination, the candidate's thesis committee signs the copies of the thesis and assigns a grade for it (ART 701). The candidate then delivers the necessary copies of the thesis to the Office of Graduate Studies for the dean's

signature and binding by the library. The library of Virginia Commonwealth University receives two copies, the Office of Graduate Studies receives one copy, and the department involved receives one copy. The Department of Music does not require a thesis copy.

4. An exhibit or performance, adequately documented, is required of every candidate for the M.F.A. degree in crafts, painting/printmaking, and sculpture. The candidate for the M.F.A. degree in crafts must present a cumulative exhibit of work near the end of the program of study.
5. An approved research report is required for the M.M.E. degree in lieu of thesis.

THE SCHOOL OF THE ARTS LIBRARY

The School of the Arts Library, located in the Pollak Building, has a collection of more than 250,000 slides and an extensive collection of exhibit catalogs from various museums and galleries. There is also a working collection of current art publications and magazines.

Virginia Commonwealth University is a short distance from Washington, D.C., Baltimore, Philadelphia, New York City, and the museums, libraries, and research facilities in those urban areas.

GRADUATE COURSES IN ART (ART)

530 Guided Study Abroad. Semester course. 1-6 credits.

601-602 Seminar in Art. Continuous course. 3 credits. Discussion and research in the visual arts providing experience and involvement in the various studio areas for students not concentrating in these areas.

509, 510; 609, 610 Individual Projects/Field Work. Semester courses. 1-6 credits. By appointment with director of graduate studies after approval by department chairman. (Obtain individual research project form from the dean's office prior to enrollment.) Individual work for graduate students.

680 Methods of Art Research. Semester course. 2 credits. Review of selected research methods relevant to the composition of a thesis in the student's master's degree area. Preparation of a proto-thesis concludes course work.

701 Thesis. Semester course. 1-6 credits. By appointment with director of graduate studies after approval by department chairman and review of candidate's record. (Obtain thesis plan approval form from director of graduate studies prior to enrollment.)

705, 706 Research in the Arts. Semester courses. 3, 6 credits. By appointment with director of graduate studies after approval by department chairman. (Obtain individual research project form from the director of graduate studies prior to enrollment.) Individual research for graduate student.

Department of Art Education

The Master of Art Education program attempts to expand and further refine each M.A.E. student's ability, knowledge, and attitudes in order to provide the profession with more effective art teachers, coordinators, supervisors, and other educational specialists in the arts.

PROGRAM DESCRIPTION

The M.A.E. program is structured on an individualized base rather than on a prescribed program of graduate studies. To benefit from the program's flexibility, each M.A.E. student must assess his or her own educational needs and professional goals. From this assessment, and with a graduate advisor's assistance, the M.A.E. student gains the opportunity and the responsibility to help determine a viable structure for the content and sequence of an individualized program of graduate studies.

Such a program can utilize the collective expertise of the art education faculty as well as appropriate community resources. Graduate course work, therefore, could include both on-campus and off-campus involvement.

Opportunities for personal growth through the M.A.E. program also include the rich resources of other university graduate departments in the visual and performing arts, education (including supervision, administration, and special areas), the natural and social sciences, and the humanities. Alternative approaches to traditional thesis methods are also encouraged within the program.

ADMISSION REQUIREMENTS, M.A.E.

In addition to the admission requirements on page 48, applicants in art education must have completed a minimum of 36 semester hour credits in studio art at the undergraduate level. It is desirable for applicants

to have had at least two years of teaching experience prior to beginning graduate studies.

DEGREE REQUIREMENTS, M.A.E. Program Pattern

| | <i>Credits</i> |
|--|----------------|
| Art Education Electives | 12 |
| Approved Electives | 15 |
| Issues and Methods | 3 |
| Thesis Requirement or Additional Course Work in Art Education. | 6 |
| | 36 |

Thesis or Project Option

A thesis or project problem may develop from graduate course work or professional involvement. Projects are those endeavors of thesis proportion which do not fit the traditional thesis format. A thesis or project may be explored by: descriptive research, historical research, empirical/statistical research, design of learning packages, philosophical study, curriculum development, or action research.

Non-Thesis Option

In lieu of the thesis, students may elect to complete six credit hours of graduate course work in the Department of Art Education. The selection of these six credits is subject to the approval of the student's advisor. In addition, the student must successfully pass a written and oral examination at the conclusion of all course work. The examination will pertain to the course work, to contemporary issues in the field, and to the student's particular area of expertise.

FACULTY

Professors: Reeves (Chairman); Landis
Associate Professors: Ferris; Hynson; Tisinger; Wright
Assistant Professors: Bleick; Burton

GRADUATE COURSES IN ART EDUCATION (AEN)

501-502 Concepts in Art Education. Continuous course; 1 seminar and 4 studio hours. 3-3 credits. A sequence of studies organized around six major components: communications, expressive media, conceptual expression, teaching strategies, teacher affective attributes, and self-managing abilities.

508 Two Dimensional Art Experiences. Semester course; 2 seminar and 3 studio hours. 3 credits. The course explores the media, techniques, and concepts of drawing, painting, and printmaking. Not offered for credit to art majors.

509 Three Dimensional Art Experiences. Semester course; 2 seminar and 3 studio hours. 3 credits. Exploration of sculptural concepts with three-dimensional materials such as wood, metal, clay, fibre, plaster, plastic, and glass. Not offered for credit to art majors.

520 Teaching Concepts Through the Arts. Semester course; 1 lecture, 1 seminar, and 3 studio hours. 3 credits. Students will investigate and compare traditional and contemporary patterns of expression; develop experiential techniques for teaching concepts; and participate in a series of activities which reveal relationships among the arts and other subject areas. Seminars will include guests from the visual, performing, and literary arts. Open to all graduate students.

540 Topics in Art Education. Semester course, variable credits from 1-3. May be repeated for a maximum of 9 credits. The course will explore selected topics of current interests or needs relative to art education. See schedule of classes for specific topic to be offered each semester.

600 Seminar: Problems in Art Education. Semester course; 3-6 lecture hours. 3-6 credits. Oral and written reports upon problems encountered by members of the seminar in their own art teaching. Group discussion of reports with the instructor as moderator.

601 Art for Elementary Classroom Teachers. Semester course; 2 lecture and 2 studio hours. 3 credits. The nature of art and its function in the lives of individuals and society will be explored in addition to an emphasis upon relevant objectives, materials, and approaches in guiding the artistic expression of children at the elementary school level. Not offered for credit to art majors.

611, 612 Art Education Theory. Semester course; 3 lecture hours. 3, 3 credits. Review and analysis of significant writings and research in art education and the assessment of its pragmatic import.

650 Art for the Exceptional Learner. Semester course; 2 lecture and 3 laboratory hours. 3 credits. A study of exceptionality, including handicapped, aged, gifted, and talented or other exceptional individuals, in terms of participation in and appreciation of the visual arts. Course to include practicum and field experiences.

652 Art Supervision and Administration. Semester course; 3 lecture hours. 3 credits. Exploration of the duties and responsibilities of the public school art supervisor and administrative positions in art education within various organizations or institutions.

660 Issues and Methods of Research in Art Education. Semester course; 3 lecture hours. 3 credits. Readings and discussions of studies in art education and related research emphasizing possibilities for implementation by art teachers. Methods of research in the field will be reviewed and sample research proposals will be developed by the students.

665 Curriculum Development and Evaluation. Semester course; 3 lecture hours. 3 credits. May be repeated for a maximum of 6 credits. A review of curriculum development including: needs assessment, determination of goals and objectives, curriculum writing, evaluation, and feed-back processes. A variety of theoretical ap-

proaches in the visual arts are studied and curriculum models are developed and analyzed within the class.

670 Media in Art Education. Semester course; 3 lecture hours. 3 credits. Examining the influence and implications of technology in art education through participation in creative learning processes.

680 Teaching Laboratory. Semester course; 3 lecture hours. 3 credits. Observations and experimental teaching experiences with children in art. Group discussions and evaluation of ideas, objectives, and methods.

Department of Art History

The department offers a broad-based education in the humanistic discipline of art history. A general comprehensive knowledge of the field will be stressed as well as the opportunity to nurture professional skills of research and writing. Expertise will be developed in criticism and the historiographic methods, such as connoisseurship, stylistic analysis, and iconography. The philosophical aspects of art history, such as aesthetics and the critical analysis of thought, are considered basic to the program. Individual research is encouraged through seminars and the writing of a thesis which makes an original contribution to the field.

It is an outstanding and notable distinction that the school is located in an urban environment with rich cultural facilities. A museum training program in coordination with local museums is part of departmental offerings and students may, in fact, choose a degree track which specializes in museology (see Program Pattern B below). Students may study the conservation of art, as well as curatorial and administrative aspects.

Studies abroad are available through university sponsored tours of Europe and Asia.

ADMISSION REQUIREMENTS, M.A.

In addition to the School of the Arts admission requirements shown on page 48, applicants should have completed a minimum of 21 undergraduate semester hours in art history with additional work in humanities courses such as history, philosophy, English, and foreign language.

DEGREE REQUIREMENTS, M.A. Program Pattern A — Historical

| | <i>Credits</i> |
|--------------------------------------|----------------|
| Art History | 21 |
| Historiography and Methodology | 3 |
| Approved Humanities Electives | 3 |
| Thesis | 6 |
| | <hr/> 33 |

Program Pattern B — Museology

| | <i>Credits</i> |
|--|----------------|
| Museology | 18 |
| Conservation | 3 |
| Art History | 12 |
| Aesthetics | 3 |
| Art Historiography and Methodology | 3 |
| Thesis | 6 |
| Elective | 3 |
| | <hr/> 48 |

Specific Degree Requirements

Upon entering the program all students will immediately be given a departmental diagnostic examination which will be used for the purpose of determining the strengths and weaknesses of their educational backgrounds. This test will have no grade significance, but will be used solely as an aid in determining a course of study.

Degree candidates must have a reading knowledge of French or German. The requirement may be fulfilled after admission but prior to the taking of the comprehensive examination. The demonstration of proficiency is accomplished through the taking of the appropriate foreign language test of the Educational Testing Service.

Students must also demonstrate general programmatic competence by passing a comprehensive examination, taken sometime toward the end of course work (though it may be requested any time after the completion of 18 credit hours), and following the successful demonstration of foreign language proficiency.

The master's program culminates with a thesis, written under the direction of a departmental advisor, the director of graduate studies, and a thesis committee.

For more complete information and details on these procedures, contact the Department of Art History.

FACULTY

Professor: Katz (Chairman); Perry
 Emeritus Professor: Bonds
 Associate Professors: Gairola; Hinter-Reiter;
 Jones; Koplin
 Assistant Professors: Flint; Mullins; Phillips
 Visiting Professors: Alexander; Mooz

GRADUATE COURSES IN ART HISTORY (ARH)

501 Art and Architecture of the Ancient Near East. Semester course; 3 lecture hours. 3 credits. An in-depth analysis of the artistic developments in Mesopotamia, Iran, Anatolia, and the areas peripheral to these cultural centers from ca. 6000 BC to ca. 300 BC.

502 Art and Architecture of Ancient Egypt. Semester course; 3 lecture hours. 3 credits. An in-depth analysis of the development of Egyptian styles from the origins of ancient Egyptian culture to its absorption in the Roman Empire. The major iconographical themes, both religious and secular, will be studied.

504 Studies in Prehistoric and Ancient Art. Semester course; 3 lecture hours. 3 credits. May be repeated to a maximum of 6 credits. An in-depth examination of selected art and issues of the period. See Schedule of Classes for specific subject to be offered each semester.

505 Studies in Greek, Etruscan, and Roman Art. Semester course; 3 lecture hours. 3 credits. May be repeated to a maximum of 6 credits. An in-depth examination of selected art and issues of the period. See Schedule of Classes for specific subject to be offered each semester.

512 Early Medieval Art. Semester course; 3 lecture hours. 3 credits. An investigation of medieval concepts in the late Roman and Byzantine Empires, and the art of the Migrations. Subsequent developments in Carolingian, Ottonian, and Romanesque art and architecture are the main topics to be considered.

513 Gothic Art and Architecture. Semester course; 3 lecture hours. 3 credits. Origins and developments of the Gothic style with emphasis on the architecture and sculpture of France.

514 Studies in Medieval Art. Semester course; 3 lecture hours. 3 credits. May be repeated to a maximum of 6 credits. An in-depth examination of selected art and issues of the period. See Schedule of Classes for specific subject to be offered each semester.

515 Early Italian Renaissance Art. Semester course; 3 lecture hours. 3 credits. An investigation of painting, sculpture, and architecture of the Trecento and Quattrocento in Italy.

517 The High Renaissance. Semester course; 3 lecture hours. 3 credits. Intensive consideration of the great masters of Italian art in the early sixteenth century.

519 Studies in Renaissance Art. Semester course; 3 lecture hours. 3 credits. May be repeated to a maximum of 6 credits. An in-depth examination of selected art and issues of the period. See Schedule of Classes for specific subject to be offered each semester.

520 The Baroque in Northern Europe. Semester course; 3 lecture hours. 3 credits. An investigation of the painting, sculpture, and architecture of France and the Low Countries. Particular emphasis will be given to the diverse characteristics of the aristocratic and bourgeois stylistic trends of the period.

521 The Baroque in Southern Europe. Semester course; 3 lecture hours. 3 credits. An investigation of the painting, sculpture, and architecture of Italy, Spain, Germany and Austria. The relationship of church and state will be a primary theme of the course.

522/ENG 517 Art, Music, and Literature of Restoration and Eighteenth Century England. Semester course; 3 lecture hours. 3 credits. An examination of the characteristics and interrelationships of certain selected works of art, literature, and music in Restoration and Hanoverian England. Dryden, Purcell, Wren, Burlington, Hogarth, and Walpole are among the major figures to be considered. Primary consideration is given to the visual arts and literature.

523 Rococo and Other Eighteenth Century Art. Semester course; 3 lecture hours. 3 credits. An in-depth analysis of Rococo painting, sculpture, and architecture in central Europe and a study of major movements of this period in France and England.

524 Studies in Baroque and Rococo Art. Semester course; 3 lecture hours. 3 credits. May be repeated to a maximum of 6 credits. An in-depth examination of selected art and issues of the period. See Schedule of Classes for specific subject to be offered each semester.

525 Neoclassicism, Romanticism, and Realism. Semester course; 3 lecture hours. 3 credits. A detailed analysis of European art during the first half of the nineteenth century with special emphasis on French and English painting. Consideration will also be given to artistic and cultural interrelationships marking the transition from the eighteenth to the nineteenth century.

526 Impressionism through Fin-de-Siècle. Semester course; 3 lecture hours. 3 credits. A detailed analysis of European art during the latter nineteenth century. Consideration will also be given to artistic and cultural interrelationships heralding the transition to the twentieth century.

529 Studies in Nineteenth Century Art. Semester course; 3 lecture hours. 3 credits. May be repeated to a maximum of 6 credits. An in-depth examination of selected art and issues of the period. See Schedule of Classes for specific subject to be offered each semester.

530 Modern Painting. Semester course; 3 lecture hours. 3 credits. An analysis of the major movements in twentieth century painting.

531 Modern Sculpture. Semester course; 3 lecture hours. 3 credits. The evolution of twentieth century sculpture considering major movements and artists.

533 Modern Architecture. Semester course; 3 lecture hours. 3 credits. An investigation of major architectural periods and achievements in commercial and residential designs from 1850 to the present, tracing the development of the International Style, traditional architecture, the evolution of the skyscraper. Art Nouveau, and the

works of Henry Hobson Richardson, Louis Sullivan, and Frank Lloyd Wright.

539 Studies in Twentieth Century Art. Semester course; 3 lecture hours. 3 credits. May be repeated to a maximum of 6 credits. An in-depth examination of selected art and issues of the period. See Schedule of Classes for specific subject to be offered each semester.

540 American Architecture. Semester course; 3 lecture hours. 3 credits. An in-depth investigation of major architectural developments in America from the Colonial period to the present, including an analysis of European prototypes.

542 Architectural History of Richmond. Semester course; 3 lecture hours. 3 credits. History and origins of Richmond area architecture.

544 Studies in American Art. Semester course; 3 lecture hours. 3 credits. May be repeated to a maximum of 6 credits. An in-depth examination of selected art and issues of the period. See Schedule of Classes for specific subject to be offered each semester.

545 The Art of India. Semester course; 3 lecture hours. 3 credits. Prerequisite: general background in art history or religion of the area. Indian art and architecture from the Indua civilization through British India.

547 Art and Architecture of Southeast Asia. Semester course; 3 lecture hours. 3 credits. The art of Burma, Malaya, Thailand, Cambodia, Indochina, and Indonesia.

549 Studies in Asian Art. Semester course; 3 lecture hours. 3 credits. May be repeated to a maximum of 6 credits. An in-depth examination of selected art and issues of the period. See Schedule of Classes for specific subject to be offered each semester.

552 Art of Central, Eastern, and Southern Africa. A study of the major art-producing tribes and areas of Central Africa, including the Cameroon, Gabon, and Zaire; East Africa, including Kenya, Tanzania, and Mozambique; and Southern Africa, Bushman art, prehistoric cave paintings, and rock engravings.

554 Studies in African and Oceanic Art. Semester course; 3 lecture hours. 3 credits. May be repeated to a maximum of 6 credits. An in-depth examination of selected art and issues of the period. See Schedule of Classes for specific subject to be offered each semester.

555 Aesthetics and Modern Theories of Art. Semester course; 3 lecture hours. 3 credits. An investigation of modern aesthetic theories and concepts in art with a foundation in pre-modern aesthetics.

556 Ideas and Criticism in Art. Semester course; 3 lecture hours. 3 credits. An in-depth investigation of modern concepts in the literature of art criticism with particular emphasis on principal writings of leading American critics.

557 Art Historiography and Methodology. Semester course; 3 lecture hours. 3 credits. Basic methodology for beginning art history graduate students. An examination of the traditional research methods of the art historical discipline, geared to familiarize students with standards in research and scholarship.

559 Studies in Aesthetics, Theory, and Criticism of Art. Semester course; 3 lecture hours. 3 credits. May be repeated to a maximum of 6 credits. An in-depth examination of selected art and issues of the period. See Schedule of Classes for specific subject to be offered each semester.

560 Curatorial Care of Collections. Semester course; 3 lecture hours. 3 credits. Prerequisite: ARH 360. Further investigation of the deterioration and examination of work of art in conjunction with conservation literature. Designed to be of special interest to the future museum professional. Includes practical instruction in diagnosis, documentation, and emergency treatment.

564 Studies in Conservation. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. An in-depth examination of selected topics.

565, 566 Museum Methods. Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: permission of instructor. Introduction to the major aspects of museum administration. Lectures by museum personnel and workshops in a variety of museums. A related research project is required of graduate students.

567 Museum Internship. Semester course; 9 to 18 studio hours. 3 to 6 credits. May be repeated with changing content to a maximum of 12 semester credits. Prerequisite: ARH 565, 566, and permission of instructor. Field work in a local or regional museum.

569 Studies in Museum Methods. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. An in-depth examination of selected topics.

571 Film Theory. Semester course; 3 lecture hours. 3 credits. Theories and criticism dealing with the medium, form, function, and psychology of film. Students will examine the medium through readings and discussions of such film theorists and aestheticians as Munsterberg, Eisenstein, Arnheim, Bazin, Kracauer, Burch, and Langer as well as through a comparison of film and other arts.

572 History of Photography. Semester course; 3 lecture hours. 3 credits. An investigation of the basic trends in the history of photography. This course will deal with the chronological development of the art, the role of the photographer, the properties of photography which make it unique, and those which ally it to the other visual arts.

574 Studies in Film. Semester course; 3 lecture hours. 3 credits. May be repeated to a maximum of 6 credits. An in-depth examination of selected art and issues of the period. See Schedule of Classes for specific subject to be offered each semester.

575 Studies in Photography. Semester course; 3 lecture hours. 3 credits. May be repeated to a maximum of 6 credits. An in-depth examination of selected art and issues of the period. See Schedule of Classes for specific subject to be offered each semester.

590 Registration Procedures for Museums. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. A study of the standard registration procedures and the current vocabulary employed by the profession. Professional ethics will be stressed to enable

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the student to become more fully aware of the importance within the museum system.

591 Museum Exhibitions. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. The study of exhibitions for museums including design, fabrication, lighting, brochures, invitations, and publications.

592 Educational Program and Public Relations for Museums. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. A study of programming for an art center/museum, including organization of permanent displays, special exhibitions, lectures, docent programs for children and adults, and traveling exhibition services. Special emphasis will be placed on the use of audio-visual materials and techniques in the exhibitions and interpretation programs, as well as the techniques of public information, including press releases, use of television, radio, newspapers, and scholarly publications.

593 Curatorship and Connoisseurship. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. An examination of the curator's relationship and responsibilities to the museum system, research methods, methods of acquisition, organization of museum reference library (including slides and other audio-visual materials), exhibition catalogues, clippings, and file and computer retrieval systems.

594 Museum Administration. Semester course; 3 lecture hours. 3 credits. Prerequisite: ARH 565, 566 and/or permission of instructor. A study of museum organization, including staff organization and relationship of director to board, building and grounds, heating and humidity control, guarding and fire control, special installations and shops, membership programs, museum finances for operation and acquisition funds, grants, promotion, development, and overall responsibility to the community and profession.

652 Art of Nigeria. Semester course; 3 lecture hours. 3 credits. A study of the culture and traditional art forms of Nigeria, from ca. 500 BC to the present, including architecture, sculptural works in wood, stone, ivory and metal, royal attire, jewelry, and weaponry. Special emphasis will be placed upon the art of the Yoruba and Benin bronzes.

680 Aspects in Christian Iconography. Semester course; 3 lecture hours. 3 credits. Seminar: the study of meaning in the visual arts of Europe from the Middle Ages to the Neo-Classical period. Students will analyze special themes of a Christian or classical derivation and study major cultural shifts within a broader historical perspective.

681 Aspects of Buddhist Iconography. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Seminar: research into the origins and expansion of Buddhist art in Asia.

682 Aspects of Hindu Iconography. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Seminar: research into the origins and expansion of Brahmanical Hindu art in Asia.

689 Problems in Advanced Art History. Semester course; 3 lecture hours. 3 credits. May be repeated.

Seminar for scholarly research and discussion of specific issues, i.e., in prehistoric art, ancient art, classical art, medieval art, Renaissance art, Baroque art, nineteenth century art, modern art, contemporary art, American art, Asian art, museum management, film and photography.

695 Directed Research Project. Semester course; variable credit; maximum 3 credits per semester. Prerequisite: permission of instructor and department chairman. Advanced individual work on subject to be formulated by student and instructor.

Department of Crafts

The Department of Crafts offers the M.F.A. degree in five disciplines: furniture design, ceramics, glassworking, jewelry or metalworking, and textiles.

Graduate enrollment is limited in each specified area of concentration. As few as three students are permitted in graduate furniture design, as many as three or four may be enrolled at any given time in ceramics. The department has the philosophy that adequate learning experiences can only be gained if the student has adequate studio space and faculty consultation time. The successful candidate for the M.F.A. degree is adequately prepared for either a teaching career or self support as a designer craftsman.

The M.F.A. program provides a great deal of flexibility in course selection. The 20 elective credits are chosen to supplement and enhance the candidate's major field of concentration.

ADMISSION REQUIREMENTS M.F.A.

In addition to the School of the Arts admission requirements shown on page 48, applicants in crafts must have completed a minimum of 36 semester hour credits in studio art at the undergraduate level.

DEGREE REQUIREMENTS, M.F.A. Program Pattern

| | Credits |
|--------------------------|---------|
| Studio Major | 24 |
| Approved Electives | 20 |
| Graduate Seminar | 4 |
| | 48 |

Each student begins the program by immediately enrolling in those courses directly related to his or her major. Faculty critiques are held weekly in respective studios with

one major review of progress held by the entire department faculty each semester. Semester reviews are attended by all candidates currently enrolled in the department.

The graduate student is required to participate in a departmental seminar for four semesters. Seminar content is topical with a core of study directed toward the presentation and documentation of the candidate's graduate show. Enrollment in the graduate seminar is mandatory for the duration of the student's study in the graduate program.

The candidate for the M.F.A. degree in crafts must present a cumulative show of work near the end of the program of study. The show must have the approval of a simple majority of the graduate faculty for the degree to be awarded.

FACULTY

Professor: Ipsen

Emeritus Professor: Eastman

Associate Professors: Thompson (Chairman); Winebrenner

Assistant Professors: Hammersley; Hawthorne; Iverson; Meyer; Ripley; Silliman

GRADUATE COURSES IN CRAFTS (CRA)

546 Kiln Design. Semester course; 3 lecture hours. 3 credits. Study and experimentation in the factors involved in the design, construction, and operation of ceramic kilns.

547 Ceramic Technology. Semester course; 3 lecture hours. 3 credits. Study of ceramic materials through calculation and experimentation.

590 Special Topics and Practicum. Semester course; 1-3 credits. May be repeated. Prerequisite: permission of instructor. A topical seminar/workshop offered in a variety of craft subjects or issues not included in the regular curriculum. See Schedule of Classes for particular topic or topics to be covered each semester.

593, 594, 693, 694 Graduate Seminar. Semester courses; 1 lecture hour. 1 credit. A weekly series of topical discussions dealing with contemporary issues in the arts as they affect the craftsman. Faculty, students, and, as appropriate, visiting lecturers will participate.

601, 602, 603, 604 Metal or Jewelry. Semester courses; 3, 6, or 9 credits. Hours to be arranged. Personal investigation of materials, processes, and attitudes relating to the creative production of metal and/or jewelry forms.

621, 622, 623, 624 Furniture Design. Semester courses; 3, 6, or 9 credits. Hours to be arranged. Design, research, and experimentation in wood and varied materials, relating to a body of work demonstrating the student's mastery of material.

641, 642, 643, 644 Ceramics. Semester courses; 3, 6, or 9 credits. Hours to be arranged. Problems in the design and production of functional and non-functional ceramic objects as well as study of experimentation in ceramic technology and kiln design.

641, 652, 653, 654 Glassworking. Semester courses; 2 lecture, 3 or 12 studio hours. 3 or 6 credits. Prerequisite: permission of instructor. Investigation of and experimentation with the ideas, material, and processes relative to the production of glass forms.

661, 662, 663, 664 Textiles. Semester courses; 3, 6, or 9 credits per semester. Hours to be arranged. Work in contemporary and traditional textile techniques.

The Master of Fine Arts in Design

INTERIOR ENVIRONMENTS PHOTOGRAPHY/FILM VISUAL COMMUNICATIONS

GENERAL PROGRAM DESCRIPTION

The purpose of this advanced degree program in design is to prepare the individual designer to assume a leadership role in a complex and expanding profession. The course work, internship experience, and research which constitutes the program will enable the designer to better solve visual and spatial problems and to function more effectively as an administrator, planner, and educator.

The program offers the graduate student the opportunity to use appropriate courses and resources from schools within the university, to participate in internship and research with various agencies and organizations concerned with programs of design and to view design as an interdisciplinary profession with an essential contribution to make toward the solution of the problems of today.

There is an emphasis placed upon design education because of the need for better design programs and more qualified faculty to staff schools, especially community colleges. The program also recognizes the need for better trained designers and design educators from minority groups.

CHARACTERISTICS OF THE PROGRAM

The Master of Fine Arts in design is an advanced interdisciplinary program in the study of design which utilizes knowledge and

human potential in alternative ways to define problems and create change.

Graduate students not only have the opportunity to work within a design field such as visual communications, interior environments, and photography/film, but also have the opportunity to develop competencies across fields and engage in research and inquiry of a social or environmental nature to create new visual forms and communicative content in a rapidly changing society.

Internship and Field Experiences

The graduate program places an emphasis upon field experiences as an interface between the theoretical and the practical. Within a professional school of the arts in an urban university there are excellent opportunities for appropriate graduate field experiences. They include:

1. Formal arrangements with state agencies, industries, foundations, and community organizations which would enable the graduate designer to function as a member of a project team or task force.
2. Service to various organizations, offered as the need arises, possibly with the student working on a specific problem or project.
3. Research internships developed with the university on school supported or outside funded projects, especially those which concern social problems, health care, and institutional environments.

PROGRAM REQUIREMENTS

Thesis

Depending upon the discipline involved, the thesis may be essentially scholarly or creative in content and form. In either instance, the written thesis or the thesis statement (when the thesis involves creative work or performance) is done in a form that can be retained by the university.

EXAMPLES OF THESES

Interior Environments

An investigation in a scholarly area; specific research problem of a technical or creative nature; and documentation of research or project during internship.

Photography/Film

An exhibition of photographs appropriately documented; a film appropriately documented; specific research problem of a technical or creative nature; and documentation of research or project during internship.

Visual Communications

An exhibition of a visual communications project appropriately documented; specific research problem of a technical or creative nature; and documentation of research or project during internship.

COURSES FOR M.F.A. IN DESIGN (DES)

Courses Common to All Subspecialties

601 Interdisciplinary Design Seminar. Semester course; 3 lecture hours. 3 credits. An introductory seminar for beginning graduate students across the three subspecialty areas which examines the mission of the contemporary designer and the technological, psychological, and aesthetic resources. Professional designers, educators from other fields on campus, and resource people from business and industry will participate.

602 Advanced Design Seminar. Semester course; 3 lecture hours. 3 credits. May be repeated. An advanced seminar in which students and faculty from the three subspecialty areas meet and discuss the professional and conceptual aspects of interdisciplinary design activity. Students will draw upon past knowledge and current investigations.

603 Design and Visual Communication Education. Semester course; 3 lecture hours. 3 credits. This course will explore the philosophical, informational, and technical aspects of design education.

School of the Arts and University Courses

The following courses common to all graduate programs in the School of the Arts are available to M.F.A. students in design who desire to engage in research supervised by qualified professors within the school and other academic divisions within the university.

ARTS 509, 510; 609, 610 Individual Projects/Field Work

ARTS 701 Thesis

ARTS 705, 706 Research in the Arts

There are a variety of graduate courses offered within the School of the Arts which can be utilized as electives by the student in this degree program. Some examples are:

ARH 606 Modern Painting**ARH 509 Film Seminar****PAP 605-606 Graduate Painting****PAP 615-616 Graduate Printmaking****PAP 621-622 Graduate Drawing****THE 503, 504 History of Dramatic Literature****THE 526, 527 Playwriting**

Virginia Commonwealth University offers a wealth of graduate courses which can, as electives, support the educational process and personal development of our graduate students.

Department of Communication Arts and Design

The objective of this program is to develop the philosophy and personal direction of each student while focusing the resources of inventive visual communications toward man and his environment. Graduate students will work in the Graduate Center for Visual Communications. In addition to functional visual communications problems, the program will explore the role of the designer in post-industrial society, experimentation in the invention of form, and the development of prototypes for socially viable visual communications.

SPECIFIC ADMISSION REQUIREMENTS

Undergraduate Preparation: The 36 semester credits in studio art must include a minimum of 20 semester credits in visual communications.

Portfolio: A minimum of 15 examples of visual communications which demonstrate visual organization, creative problem solving ability, and potential for research and growth.

TYPICAL PROGRAM PATTERN

| First Semester | Credits |
|--|---------|
| Interdisciplinary Seminar | 3 |
| Visual Communications Workshop | 6 |
| Elective: Urban Studies | 3 |
| | 12 |

| Second Semester | Credits |
|---|---------|
| Visual Communications Workshop | 6 |
| Design and Visual Communication Education | 3 |
| Elective: Photography | 3 |
| | 12 |

Third Semester

| | |
|--|----|
| Visual Communications Workshop | 6 |
| Visual Communications Seminar | 3 |
| Elective: Photography | 3 |
| | 12 |

Fourth Semester

| | |
|--|-----------|
| Advanced Design Seminar | 3 |
| Visual Communications Workshop | 6 |
| Documentation (Thesis) | 3 |
| | 12 |
| TOTAL | 48 |

Possible thesis title: "A Proposed Signage Code for Countries in Transition from a Rural to an Urban Character."

FACULTY

Professors: Appgar; Bevilaqua

Associate Professors: Davis; Meganck; Meggs (Chairman); Scalin

Assistant Professors: Carter; Moore

GRADUATE COURSES IN VISUAL COMMUNICATIONS (CDE)

611 Visual Communications Workshop. Semester course; 6, 12, 18 studio hours. 3, 6, 9 credits. May be repeated. A professionally oriented class. Selected projects will be in areas concerned with theoretical research of an advanced nature or involvement with institutions offering opportunities for designing on an advanced level.

621 Visual Communications Seminar. Semester course; 3 lecture hours. 3 credits. May be repeated. Faculty, students, designers from industry, and authorities from appropriate disciplines will examine aesthetic and social areas of concern to the designer and specific projects developed in the Visual Communications Workshop.

Department of Interior Design

The graduate program in interior environments seeks to produce master designers who can take the role of leadership in interior environmental research, exploration, application, and education. The specific areas include: design study and research in man-environmental relations; advocacy planning for community, state, corporate and industrial agencies, and foundations; investigation of managerial methods, information and planning systems, and alternative graphic processes in design, planning, documentation, and presentations; experimentation in construction, production, and material technology as they apply to the near environment of man; design exploration in environments which serve a special social function, such as hospitals, schools,

and confinement institutions; investigation of the history of interior environments and furnishings; and the exploration of new concepts, techniques, and learning methodologies in interior design education.

SPECIFIC ADMISSION REQUIREMENTS

Undergraduate Preparation: A minimum of 36 semester credits in studio art at the undergraduate level; an additional 15 semester credits are required in related courses such as architecture, business considerations, environmental support systems, art/architectural history, and environmental psychology.

Portfolio: A minimum of ten examples of recent designs which exemplify the ability to draft, sketch, render, and letter, as well as to solve interior and/or exterior design problems. Attending research data and slides of prototypes and work completed should be included if possible.

DEGREE REQUIREMENTS

A minimum of 48 credits are required within prescribed courses. The thesis is to be prepared according to the guidelines from the Office of Graduate Studies, School of the Arts.

COURSE REQUIREMENTS

| | <i>Credits</i> |
|--|----------------|
| Graduate Design Core | 24 |
| Graduate Seminars | 12 |
| (Interior Design or Interdisciplinary) | |
| Approved Electives | 9 |
| Thesis | 3 |
| | 48 |

Internship may be substituted for Graduate Design Core or for Approved Electives.

FACULTY

Professors: Gunter (Chairman); Field; Schroeder
Associate Professor: Hardy; Kozak; Yung
Assistant Professor: Marlow

GRADUATE COURSES IN INTERIOR ENVIRONMENTS (IDE)

601 Graduate Design Core. Semester course; 6, 12 studio hours. 3, 6 credits. May be repeated. Designing in specialized areas of interior environments which requires planning and interaction with designers and administrators.

611 Fieldwork, Internship. Semester course; 6, 12, 18 studio hours. 3, 6, 9 credits. May be repeated. Approval of advisor. Professional experience in the cooperative solution of design problems in interior environments which relate theory to practice. Formal arrangements will be made with state agencies, industries, and community organizations.

621 Interior Environments Seminar. Semester course; 3 lecture hours. 3 credits. May be repeated. A topical seminar which examines the research and theory in the various areas of interior environments design. Consultants and professionals in the design fields will be involved.

Department of Music

The Department of Music views the graduate student as a sensitive musician who brings with him a particular educational background and a variety of life experiences. He has defined for himself his professional and artistic goals. The graduate program is a collaborative effort among the students and the faculty to help each student achieve these goals.³

The music curriculum allows individual uniqueness and expertise. Its flexibility accommodates the personal aspirations of the student while it emphasizes quality musicianship. At VCU a great deal is expected of graduate level musicians, and the atmosphere in which they work is both provocative and challenging.

All students are encouraged to define their personal objectives within a music-centered life style, to express themselves musically, and to discover their most creative selves. Their resources include the expertise of 27 full- and 43 part-time and adjunct faculty, the environment created by our performing organizations, and the excitement generated by other talented student musicians. Within this community of musicians are three composers in residence, artist-performers of the Richmond Symphony, leading musicians from Washington, D.C., and educators and musicologists who have authored numerous articles and professional publications.

³From a statement by the Graduate Composition Seminar, Summer 1973. The faculty include persons who serve on national professional committees and have made presentations at national conventions in their areas of specialization, musicians from Washington, and educators and musicologists who have authored articles and professional publications.

As musicians, all students perform regularly in recitals and concerts. These performances include more than 150 public concerts presented each year as well as studio and departmental recitals. VCU student and faculty composers are frequently featured in works for traditional instrumentation and/or our four synthesizers. Participating in the VCU musical community means involvement in a musically rich environment — studio lessons with artist-teachers, small classes, independent study, and participation and touring with performing organizations and ensembles. Specialized resources include the curriculum lab for music education and well-equipped electronic music studios.

ADMISSION REQUIREMENTS

In addition to the School of the Arts admission requirements shown on page 48, applicants in music must meet the following requirements:

An audition is required. Appointments for auditions are arranged through the chairman of the Graduate Faculty Committee of the Department of Music. Audition tapes may be sent by out of state applicants. Preparation in music history and theory is assessed through the submission of a departmentally developed written examination or through the GRE Advanced Music Examination.

Composition

A portfolio of compositions must be submitted by all applicants to the M.M. program in composition. The portfolio of compositions should contain a minimum of six works, each approximately five minutes in length, which demonstrate proficiency in the following areas:

- 1) large classical form
- 2) non-serial twentieth century techniques
- 3) serial techniques
- 4) electronic studio techniques
- 5) orchestration (minimum of eight instruments).

A high level of craftsmanship must be exhibited in at least three of these areas. A student inexperienced in any of these areas must demonstrate competence in them at the time of his application for candidacy. Tape recordings of electronic compositions should be submitted by applicants in this area.

Note: These requirements are in addition

to the audition and musicianship examination.

Conducting

Applicants for the conducting program will submit the written entrance examination. The audition-interview will cover the following areas:

- 1) proficiency in performance in at least one applied area equivalent to at least the first semester senior level of undergraduate study.
- 2) ability to conduct a work prepared in advance by the auditionee.
- 3) ability to play at sight simple keyboard passages and to harmonize a given melody at the keyboard.
- 4) physical coordination and ability to modify physical gestures quickly and efficiently.
- 5) ability to identify from score wrong notes in passages played at the keyboard by the examiner.
- 6) ability to express one's self verbally with clarity and efficiency.
- 7) knowledge of ranges, performing characteristics, and idiomatic writing for orchestral instruments and voice.
- 8) knowledge of music literature and styles.
- 9) ability to sight-read complex rhythms and pitch sequences.

The piano proficiency requirement for conducting majors will be met by the keyboard entrance requirements specified above and the score reading course.

PROGRAM AND DEGREE REQUIREMENTS

Proficiency Examinations

All newly admitted M.M. students will be given diagnostic examinations in music history, theory, and aural skills (sight singing and melodic and harmonic dictation) in order that they may be effectively advised early in their academic program of areas of strength and weakness.

Proficiency in piano, graded to the pianistic needs of the various fields of concentration, must be demonstrated prior to the granting of candidacy for any M.M. degree. The specific requirements are detailed in the *Handbook for Graduate Studies in Music*.

M.M.E. students will demonstrate proficiency in all the above areas through the competency assessments which are a part of their curriculum.

A reading knowledge of foreign language(s) is required for the following curricula: music history (one language required for admission to candidacy, one additional language for graduation); church music (German required for admission to candidacy). The writer of any thesis or lecture-recital dealing with foreign literature shall demonstrate competence in the appropriate language(s). The student has the option of taking the Foreign Language Test of the Educational Testing Service or an examination administered by the department.

Applied Music (Master of Music)

The applied music faculty is comprised of artist-teachers who remain active professional performers, including musicians from the Richmond Symphony Orchestra, the National Symphony, the Contemporary Music Forum, Wolf Trap Farm Park, and principal freelance performers in the Metropolitan D.C. area. Vocal faculty include soloists with major orchestras, operatic and concert singers, coaches, and conductors. Performance opportunities include opera, oratorio, musical theatre, and appearances as soloists with the many regional and university ensembles. The applied synthesizer major will have both solo and ensemble performance opportunities with the New Music Ensemble.

The thesis/recitals which culminate the program will ordinarily include both a full-length solo recital and a lecture-recital.

Core Program

| | <i>Credits</i> |
|--|----------------|
| American Music | 2 |
| Analysis for Performance and Composition | 3 |
| Bibliography and Methods of Research | 2 |
| Conducting, Rehearsing, and Interpreting | 3 |
| Twentieth Century Music | 2 |
| SUB-TOTAL | 12 |
| Applied Music | 6 |
| Approved Electives | 8 |
| Thesis—Recital | 6 |
| | 32 |

Church Music (Master of Music)

Virginia Commonwealth University is the

only state-aided institution in Virginia which offers degree programs in church music. Located in a region with more than 240 churches of all denominations, the church music major has exceptional opportunities for observation, field work, and participation in programs of all types. Through refinement of skills in conducting, analysis, and performance, as well as formulation of a philosophical base for program development and implementation, the graduate of this curriculum will be prepared to develop and administer multi-faceted church music programs. Since the graduate curriculum is designed to complement undergraduate majors in this field, students who have not had preparatory course work in hymnology, liturgics, children's choir, or choral repertoire will supplement their curriculum with selected courses from the undergraduate offerings. The thesis/recital requirement may be satisfied by the presentation and direction of a choral concert, or a written paper involving program development or other research. Other thesis alternatives may be developed with the approval of the Graduate Faculty Committee of the Department of Music.

| | <i>Credits</i> |
|--|----------------|
| Analysis for Performance and Composition | 3 |
| Applied Music | 4 |
| Bibliography and Methods of Research | 2 |
| Choral Pedagogy | 3 |
| Church Music Philosophy and Administration | 6 |
| Conducting, Rehearsing, and Interpreting | 3 |
| Field Work in Church Music | 2 |
| Approved Electives | 6 |
| Thesis—Recital | 3 |
| | 32 |

Composition (Master of Music)

The composition degree program is centered on private study with faculty members who are themselves published composers as well as outstanding performers. Emphasis is placed on the development of traditional compositional skills as well as contemporary techniques. The availability of three separate electronic music studios gives VCU some of the most complete facilities of this type in the country. Student compositions are performed as a regular part of the Chamber Music Ensemble program and may be featured in ensemble concerts. The graduate curriculum may be supplemented with courses in composition for

the theatre and modern popular media. In addition to an exit portfolio of a minimum of four works of at least five minutes duration each, the student will submit a thesis composition of at least eight minutes duration accompanied by an expository paper, score and parts, and taped performance.

| | <i>Credits</i> |
|-----------------------------------|----------------|
| Core Program ⁴ | 12 |
| Analysis (MUC 612) | 3 |
| Applied Music (composition) | 6 |
| Approved Electives | 8 |
| Thesis | 3 |
| | <hr/> 32 |

Conducting (Master of Music)

VCU offers the diversity of ensemble conducting experiences essential to the development of the graduate conductor. Conducting majors ordinarily elect to specialize in either band, choral, or orchestral conducting. At the discretion of the major teacher, the student will also assist in rehearsing and conducting major departmental ensembles. Close involvement with the performance lab program will enable conducting majors to form ensembles from which coaching and conducting experience can be gained, and each student will be expected to demonstrate skill in rehearsing and conducting at least one work in each of the areas outside his specialization. The thesis requirement will be fulfilled by rehearsing and conducting a full concert or its equivalent during the final semester of study and the presentation of a written research document.

| | <i>Credits</i> |
|---|----------------|
| Applied Music (conducting) | 6 |
| Score Reading | 2 |
| Ensemble | 2 |
| Bibliography and Methods of Research | 2 |
| Analysis for Performance and Composition | 3 |
| Music history-literature or composition-theory electives (at least one course in each area) | 8 |
| Electives | 3 |
| Thesis | 6 |
| | <hr/> 32 |

Music Education (Master of Music)

The Department of Music offers both M.M. (Education) and the M.M.E. degrees. The M.M. degree has a traditional structure and provides the student an opportunity to

take courses during the fall, spring, and summer sessions as a full-time student. This degree program is intended for students who are able to take a leave of absence from their school positions, those who are not currently teaching, or those who feel that the M.M.E. degree program is not suited to their needs. In addition to electives and required courses, a thesis is presented for this degree. The thesis may be developed on a subject related to some phase of music education or music education history or may take the form of a recital or lecture-recital for students who have a particular interest in performance.

| | <i>Credits</i> |
|---|----------------|
| Applied Music | 3 |
| Arranging | 3 |
| Choral or Instrumental Pedagogy | 3 |
| Conducting, Rehearsing, and Interpreting | 3 |
| Music Education Philosophy and Technology | 6 |
| Approved Electives | 11 |
| Thesis | 3 |
| | <hr/> 32 |

Master of Music Education

The M.M.E. program (not available 1981-1982) is an alternative to traditional graduate study. Through a unique combination of the academic environment and the professional life of the student, the curriculum deals directly with the professional demands, responsibilities, and potentials of the skilled music educator. The emphasis is on both musical and teaching competence. Teachers entering the program must be experienced and currently employed, since their own classrooms and teaching are involved in their graduate study. The program involves two intensive summers on the VCU campus plus significant supervised research and development work during the school year in the teacher's own professional position.

Master of Music Education Program Schedule

Phase I

Major Activity . . . Homogeneous group. Acquisition of music education competencies and preparation for individual research

Place of Activity . . . VCU

Credits Earned . . . 10

Courses. MUE 681, 5 credits
MUE 683, 5 credits

⁴The specifics of the Core Program are listed under the Master of Music (Applied Music).

Phase II

Major Activity . . . Independent study projects in programmatic research and development plus preparation of thesis.

Place of Activity . . Teacher's classroom

Credits Earned . . . 6-6 research

Courses. MUE 685-686
12 credits

Phase III

Major Activity . . . Homogeneous group. Musical and educational exploration and analysis. Elective courses

Place of Activity . . VCU

Credits Earned . . . 10

Courses. MUE 687 3 credits
Elective courses 7 credits

For additional information regarding the M.M.E. degree program, write to the Department of Music, Virginia Commonwealth University, 1015 Grove Avenue, Richmond, VA 23284.

Music History (Master of Music)

Graduate music history study encompasses all aspects and phases of the field: compositional styles, ethnomusicology, bibliography, and general musicology. Virginia Commonwealth University is in a rare position to offer the opportunity of first-hand research in early American music because it is centrally located in an area which contains many pieces of music and musically-related documents which helped to form our musical culture. The close proximity of the Library of Congress and the Smithsonian Institution also provide excellent research opportunities.

| | <i>Credits</i> |
|------------------------------------|----------------|
| Core Program | 12 |
| Seminar in Music History | 2 |
| Music History | 8 |
| Approved Electives | 4 |
| Thesis | 6 |
| | 32 |

Piano Pedagogy (Master of Music)

The curriculum in piano pedagogy has been developed for the professional advancement of the teacher of private and group piano. The four-fold emphasis of the program is designed to enhance one's musicianship and to enable the student to acquire skills and knowledge pertinent to successful piano teaching. Included are further development of the student's performance ability; continued study of musical styles,

literature, and analysis; materials and methods for all levels of instruction; and studio and classroom management. VCU is the only state-aided institution in Virginia to offer advanced study in piano pedagogy. The expertise of the entire piano faculty is available to the pedagogy student for studio instruction, course work, independent study, advising, and thesis. The four credit thesis recital which culminates the program includes the presentation of a full-length recital and the preparation of an analytical paper centered on the recital literature.

| Course outline | <i>Credits</i> |
|--|----------------|
| Bibliography and Methods of Research | 2 |
| Twentieth Century Music. | 2 |
| Analysis for Performance and Composition | 3 |
| Applied Piano | 6 |
| Advanced Pedagogy | 3 |
| Group Piano Methods and Management | 2 |
| Seminar in Piano Technique | 1 |
| Piano Ensemble. | 1 |
| Electives (music history and literature or psychology recommended) | 8 |
| Thesis-recital | 4 |
| | 32 |

ADDITIONAL INFORMATION

Students in all fields of graduate music study may, with the approval of their advisor, department chairman, and the director of graduate studies, elect independent study for the fulfillment of course requirements.

All degree seeking students in music should consult the current Handbook for Graduate Studies in Music for specific departmental policies which pertain to their degree programs and the calendar of diagnostic and proficiency examination dates.

FACULTY

Professors: Batty; Koehler (Chairman); Newlin; Pfeifer; Smetana; Vlahcevic
Emeriti Professors: Cherry; Tennant
Associate Professors: Bilyeu; Blank; Carrier; Jarrett; Lohuis; Marrion; Murray; Robinson; Savage; Thomas
Assistant Professors: Bick; Carle; Giles
Instructors: Bowles; Parks
Artist-Musician in Residence: Jesús Silva

GRADUATE COURSES IN MUSIC
Courses in Applied Music (APM)

501-560, 601-660 Private Instruction: Principal and Secondary Performance Mediums. Semester courses; one half hour or one hour private lesson per week. 1 to 3

credits. Extra fee required. Hour lessons are primarily for music students on major instruments. One hour practice daily for each credit. Non-major must get course assignment from music department office. Private lessons are available in the following areas: voice, piano, organ, harpsichord, carillon, percussion, flute, clarinet, saxophone, oboe, bassoon, trumpet, trombone, baritone horn, French horn, tuba, violin, viola, cello, double bass classical guitar, harp, composition, synthesizer, conducting.

563-564 Pedagogy. Continuous course; 2 lecture hours. 2-2 credits. A study of the musical, physiological, and psychological aspects of teaching instruments or voice. Second semester will include practical experience in teaching students under faculty supervision. Sections: (1) piano, (2) voice, (3) organ, (4) percussion, (5) brass, (6) woodwinds, (7) strings, and (8) guitar.

571 Choral Pedagogy. Semester course; 3 lecture hours. 3 credits. Teaching competencies relative to the choral training and use of the unchanged, changing, and matured voice will be stressed. Included are consideration of vocal production, pronunciation, aural skills, reading skills, and stylistic interpretation.

575-576 Score Reading. Continuous course; 2 laboratory hours. 1-1 credits. Prerequisite: APM 274 or the equivalent. A progressive course in reducing scores at the keyboard, beginning with simple choral scores and progressing to full orchestra and band. No degree credit for graduate composition majors.

585 Percussion Laboratory/Seminar. Semester course; 2 laboratory hours. 1 credit. Advanced course in specialized percussion techniques and literature designed for the performer, composer, and educator. Topics may include surveys of literature, notational problems, mallet making, and instrument maintenance. Topics will vary from semester to semester depending on the needs and interests of the class. May be repeated up to four times for credit.

663 Advanced Pedagogy. Semester course; 3 lecture hours. 3 credits. Further study in pedagogical systems and techniques with emphasis on materials for intermediate and advanced level students. Studio observation will be included. Sections: (1) piano, (2) voice, (3) organ, (4) percussion, (5) brass, (6) woodwinds, and (7) strings.

670 Large Ensembles. Semester course; 3 or 4.5 laboratory hours. .5 or 1 credit. Sections: (1) orchestra, (2) concert band, (3) symphonic band, (4) chorus, and (5) university-community chorale. (Auditions required for sections 1, 3, and 4.) Each section may be repeated up to six times for credit.

671 Piano Technique Seminar. Semester course; 1 lecture hour. 1 credit. Physiology of piano playing. Alternative approaches to building and reconstructing technique.

673,674 Piano Literature and Performance Practice. Semester courses; 2 lecture hours. 2, 2 credits. To familiarize the student with a broad repertoire of performing and teaching material. Discussion of approaches to styles and idioms of various periods; solution of technical and musical problems encountered in

specific pieces; evaluation of various editions of piano literature.

679 Conducting, Rehearsing, and Interpreting. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Acquisition of refined conducting competence including effective and efficient rehearsal procedures, recognition and correction of errors, effective communication, appropriate stylistic interpretation, and complex dextrous skills.

680 Performance Laboratories. Semester course; 4 laboratory hours. 1 credit. A flexible program designed to involve students in the performance of a wide range of music. Included are chamber music and conducting and reading experience with the conducting band, orchestra, and chorus in which all enrolled students participate. Each section may be repeated up to six times for credit.

681 Group Piano Methods and Management. Semester course; 2 lecture hours. 2 credits. Management, methods, and materials for group teaching. Includes beginning students of all ages, intermediate level students, and college keyboard skills classes.

690 Small Ensemble. Semester course; 3 laboratory hours. 1 credit. Sections: (1) stage band, (2) madrigalists, (3) collegium musicum, (4) piano ensemble, (5) opera workshop, (6) accompanying, (7) percussion ensemble, (8) trombone ensemble, (9) percussion lab ensemble, (10) clarinet choir, (11) new music ensemble, (12) brass ensemble, and (13) string quartet. (Auditions required for all sections.) Each section may be repeated up to six times for credit.

Courses in Music History (MHT)

521-522 Survey of Music History. Continuous course; 3 lecture hours. 3-3 credits. A study of Western music in an historical context from antiquity to the present. No degree credit granted for music majors.

541 American Music. Semester course; 2 lecture hours. 2 credits. The growth and development of music in the United States from 1607. While the chief concentration will be upon art music and church music, folk music, jazz, and the other forms of popular expression will be included.

542 Twentieth Century Music. Semester course; 2 lecture hours. 2 credits. Impressionistic, expressionistic, neo-classic, and neo-romantic influences and styles of music. Development of new sound-generating techniques and methods for ordering the new tonal materials.

551-552 Orchestral Repertoire. Semester courses; 1 lecture hour (1 credit); 1 lecture and 2 laboratory hours (2 credits). Performance and study of selected major symphonic works from historical, analytical, and stylistic perspectives. Research reports will include comparisons of interpretations. Repertoire will consist of basic audition pieces selected by orchestras. Laboratory sessions will utilize available instrumentation for performance.

561, 562 Anthropology of World Musics. Semester courses; 3 lecture hours. 3,3 credits. Offered in alternate years. First semester will involve study of the correlation between the musical styles and the cultures of both

66 School of the Arts

Western nations and such non-Western nations as India, Japan, and China. Thought processes; political, social, and historical events; and the artist within society will be considered. Second semester study will emphasize such theoretical aspects as timbre, form, rhythm, meter, pitch, and texture.

581 Topics in Music. Semester course; variable credits, 1-3. May be repeated for a maximum of 9 credits. Flexible term courses in selected aspects of music performance, theory, literature, or history. See Schedule of Classes for specific topic to be offered each semester.

617-618 History of Theory. Continuous course; 2 lecture hours. 2-2 credits. Reading and discussion of writings of the major theorists of Western music. (Not offered every year.)

630 History of Church Music. Semester course; 2 lecture hours. 2 credits. A survey of liturgical music from Biblical times to the present with emphasis on the music of the Jewish, Orthodox, Roman, and Protestant rites. (Not offered every year.)

642 Introduction to Musicology. Semester course; 2 lecture hours. 2 credits. Prerequisite: a reading knowledge of at least one modern foreign language. A course to prepare students who wish to pursue further graduate or professional work for the extensive and intensive research methods of historical and ethnomusicology. (Not offered every year.)

643,644 Notation. Semester courses; 2 lecture hours. 2, 2 credits. A study of European notational systems no longer in use, ca. 1200-1600 A.D. Transcription into modern notation of each of the various types. (Not offered every year.)

645 Gregorian Chant. Semester course; 2 lecture hours. 2 credits. Prerequisite: MHT 680. A study of the history, theory, design, and use of Gregorian Chant from its inception to the present. Discussion will include non-liturgical and supra-liturgical uses in other Western music. (Not offered every year.)

647,648,649,650 Seminar in Music History. Semester courses; 2 lecture hours. 2 credits each semester. Prerequisite: MHT 680. An intensive study of a limited phase or segment of music history through examination of relevant materials and extended class discussion.

666 Music of the Middle Ages. Semester course; 2 lecture hours. 2 credits. Prerequisite: MHT 680. Principal musical developments from the first through the fifteenth centuries: Gregorian Chant, the rise of secular monophony; the development of polyphony — its forms and styles. (Offered alternate years.)

667 Music of the Renaissance. Semester course; 2 lecture hours. 2 credits. Prerequisite: MHT 680. Principal musical development from the late fifteenth through sixteenth centuries; sacred and secular homophonic and polyphonic forms and styles; the development of instrumental idioms and forms; the spread of music into cultured society. (Offered alternate years.)

668 Music of the Baroque. Semester course; 2 lecture hours. 2 credits. Prerequisite: MHT 680. Principal developments, ca. 1590-1750; accompanied monody and the beginning of opera; forms and styles of sacred and secular compositions. (Offered alternate years.)

669 Music of Rococo and Classical Eras. Semester course; 2 lecture hours. 2 credits. Prerequisite: MHT 680. Major developments in sacred and secular forms and styles, ca. 1730-1828; social and artistic influences on music; dominance of instrumental music; Mozart, Beethoven, and the German Symphony. (Offered alternate years.)

670 Music of the Romantic Era. Semester course; 2 lecture hours. 2 credits. Prerequisite: MHT 680. Influence of the Romantic Era on concepts of musical forms and styles: the development of the art song; the growth of opera; the exploitation of instruments and tonality. (Offered alternate years.)

680 Bibliography and Methods of Research. Semester course; 2 lecture hours. 2 credits. A course to introduce graduate students to the chief bibliographic materials in music and to help to develop skills of research and writing necessary to produce a thesis or other formal research paper.

Courses in Music Theory (MHT)

513 Arranging. Semester course; 3 lecture hours. 3 credits. Practical, technical, and conceptual considerations of arranging and transcribing for vocal and instrumental groups will be explored. Students will demonstrate competence in these creative areas to the optimum level of school and/or church music organizations.

613,614,615,616 Seminar in Music Theory. Semester courses; 2 lecture hours. 2 credits each semester. Topical discussions and relevant research appropriate to the principal eras of music development. (Not offered every year.)

620 Set Theory. Semester course; 2 lecture hours. 2 credits. Discussion and analysis of sets as they are used in music, their function, mutation, and application in different historical periods. (Not offered every year.)

Courses in Music Composition (MUC)

505 Twentieth Century Techniques. Semester course; 3 lecture hours. 3 credits. Prerequisite: MHT 222 or permission of instructor. Composition in and analysis of techniques associated with Late Romanticism, Impressionism, Neo-Classicism, Expressionism, Serialism, and current avant-grade music. No degree credit for graduate composition majors.

506 Advanced Scoring Techniques. Semester course; 3 lecture hours. 3 credits. Application of idiomatic scoring devices for orchestral instruments and voices in both large and small combinations. No degree credit for graduate composition majors.

517 Introduction to Electronic Music. Semester course; 2 lecture and 2 laboratory hours. 3 credits. A study of laboratory techniques and composing for electronic instruments.

518 Electronic Music Control Systems. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: MUC 517. A study and application of analog/digital control techniques used in electronic music composition.

525-526 Projects in Electronic Music. Semester courses;

4-12 laboratory hours. 2-6 credits. Prerequisite: permission of instructor. Each course may be repeated for a maximum of 12 credits. Completion of selected projects in electronic module design and/or electronic music composition.

611-612 Analysis for Performance and Composition. Continuous course; 3 lecture hours. 3-3 credits. Analysis of the organization, combination, and manipulation of constructive devices of music from the sixteenth century to the present with demonstration of this knowledge through performance and composition.

621, 622, 623, 624 Composition Seminar. Semester courses; 2 lecture hours. 2 credits each semester. Discussion, analysis, and criticism of selected compositions pertinent to the improvement of student skills and understanding.

Courses in Church Music (CHM)

621-622 Church Music Philosophy and Administration. Continuous course; 3 lecture hours. 3-3 credits. Acquisition of philosophical bases for music in liturgical and non-liturgical churches. Development of administrative skills in resolving problems concerning organization, scheduling, budgeting, and personnel.

635, 636, 637, 638 Seminar in Organ Performance Practices. Semester courses; 2 lecture hours. 2 credits each semester. A study of selected organ music (literature) from the Renaissance to the twentieth century. Emphasis on structural and stylistic analysis and performance practices.

639-640 Field Work in Church Music. Continuous course. 1-1 credit. Prerequisite: a position as a choir director or organist-director in a nearby church. Planning and direction of a church music program with faculty supervision.

Courses in Music Education (MUE)

575 Aspects of Popular Music. Semester course; 3 lecture hours. 3 credits. At the completion of the course, the student shall be able to articulate a thoughtful perspective of so-called "Classical Music" and "Pop Music," as well as be able to explicate the intellectual, aesthetic, and cultural aspects of this music. Open to both majors and non-majors; no degree credit for undergraduate music majors.

576 The Phenomenon of "Rock." Semester course; 3 lecture hours. 3 credits. After analyzing the formal musical principles and the socio-literary phenomenon of Rock music, as reported in Rock newspapers, books, and articles, and record jackets, etc., the student shall be able to offer cohesive and logical evidence, verbally and through position papers, which will lead to a clearer definition and understanding of this youth movement. He will also be able to cite, with corroborative evidence, an accurate survey of its historical development. No degree credit for music majors.

583 Special Workshop in Music Education. Semester course; 15-45 laboratory hours. Variable credits.

587 Rhythms for Elementary Aged Children. Semester course; 3 lecture hours. 3 credits. Significant contributions of rhythmic activity to the social, physical, emo-

tional, intellectual, and musical growth of children. Fundamental rhythms, singing songs and games, traditional folk and national dances, creative movement, and the use of practical classroom materials in music education will be presented.

591-592 Initial Course in Music Therapy. Continuous course; 2 lecture and 2 laboratory hours. 3-3 credits. Prerequisite: ability to demonstrate basic skills on a musical instrument. An initial course that studies the therapeutic use of music in various educational settings; its historical development and present day application; methods and procedures for implementation in educational/clinical settings with observations and field work; case studies.

593 Influencing Behavior Through Music. Semester course; 3 lecture hours. 3 credits. A study of the methodology of behavior modification through music. Students will learn to analyze and make appropriate choices among existing methods of behavioral modification employing music. The student will also develop appropriate observational techniques.

595 Music and the Exceptional Individual. Semester course; 3 lecture hours. 3 credits. A comprehensive study of music activities for special populations (e.g. mentally retarded, emotionally disturbed, learning disabled, cerebral palsied, etc.) of all ages. Topics will include identification of populations, programs, facilities, literature, services, and resources.

597 Human Response to Music. Semester course; 3 lecture hours. 3 credits. The human response to music in relation to physiological, cognitive, and affective responses; music ability and preference; acoustics and research methods applied in human responses to music problems will be studied.

646 Aesthetics. Semester course; 2 lecture hours. 2 credits. A study of music from the standpoint of design and craftsmanship as it embodies the principles of art defined and reflected in the literary writings of philosophers and composers. Examples of other art forms will be examined when relevant.

661-662 Music Education Philosophy and Technology. Continuous course; 3 lecture hours. 3-3 credits. Development of educational competencies which are intrinsic to contemporary educational processes including strategy design, evaluation procedures, curricula structuring, and school administration. Alternatives within these areas of competence will be developed and substantiated through philosophical rationale.

675 Pedagogy of Music. Semester course; 2 lecture hours. 2 credits. A class designed to train the prospective teacher how to present the elements and materials of music in a program designed for the general classroom; to include listening, performing, composing, and incorporating music in a meaningful aesthetic experience.

676 School Music Supervision and Administration. Semester course; 2 lecture hours. 2 credits. The study of the organization, curriculum, course content, administration, and personnel problems in public school music.

681 Integrated Musical Behaviors. Summer course; 10

hours weekly for 8 weeks. 5 credits. As a culmination of course activity, each student will demonstrate operational competencies to the level of the optimum field demands of his teaching specialty in all of the following areas: stylistic interpretation of music, conducting skills, rehearsal operations, repertoire selection, composing, arranging, functional piano performance, sight singing, score reading, and usage of electronic music instruments. In addition, each student will demonstrate performance capabilities on one instrument (or voice) to the level of standard professional repertoire. (Not offered in 1981-1982.)

683 Music Education Processes. Summer course; 10 hours weekly for 8 weeks. 5 credits. Each student will analyze three major educational systems and/or documented field operations and will evaluate operational procedures against stated or implied philosophical positions. To the level of the optimum field demands of his teaching specialty, each student will demonstrate operational competencies in the following areas: assisting students to sing with accuracy and appropriate vocal quality; using a variety of educational strategies; teaching basic techniques on orchestral and band instruments; employing contemporary educational technology; objectively evaluating his own and other's teaching; preparing alternatives in scheduling, purchasing, and other administrative procedures; assisting students to hear accurately; and structuring appropriate curricula which involve students in a wide range of musical behaviors. (Not offered in 1981-1982.)

685-686 Music Education Research. Continuous course; 6-6 credits. Prerequisites: MUE 681 and 683. Each student will design and implement a programmatic research and development project dealing with either instructional processes or curricular structures. The project activity will be conducted in a school classroom and will involve students in both the research and development operations. Two two-day seminars will be held each semester for analysis and evaluation of the project operations. The student will prepare a thorough report of all research and development operations including conclusions and recommendations. (Not offered in 1981-1982.)

687 Research Assessment and Music Interaction. Semester course; 1 or 3 credits. Prerequisite: MUE 685-686. Based on assessments of research and development activities of the entire class, each student will identify and explore styles of musical interaction and teaching with his class and the current MUE 683 class. The one-credit section is designed for students continuing projects beyond the summer term. (Open only to Master of Music Education students.)

Department of Painting and Printmaking

The Department of Painting and Printmaking offers a graduate program of study

leading to the M.F.A. degree. Students admitted to the program are expected to have achieved a high level of competency in either painting or printmaking. The graduate program is designed to encourage the development of professional attitudes and skills, with an emphasis on individual investigation.

ADMISSION REQUIREMENTS, M.F.A.

In addition to the School of the Arts admission requirements shown on page 48, applicants in the visual arts must have completed a minimum of 36 semester hour credits in art at the undergraduate level.

DEGREE REQUIREMENTS, M.F.A.

Program Pattern

| First Semester | Credits |
|---|-----------|
| Studio (6 credits of major, 3 credits of minor) | 9 |
| Issues in Contemporary Visual Arts or Art and Critical Theory or Graduate Art History | 3 |
| Graduate Seminar | 3 |
| | 15 |
| Second Semester | |
| Studio (6 credits of major, 3 credits of minor) | 9 |
| Issues in Contemporary Visual Arts or Art and Critical Theory or Graduate Art History | 3 |
| Graduate Seminar | 3 |
| | 15 |
| Third Semester | |
| Studio (6 credits of major, 3 credits of minor) | 9 |
| Aesthetics | 3 |
| Graduate Seminar | 3 |
| | 15 |
| Fourth Semester | |
| Studio (6 credits of major, 3 credits of minor) | 9 |
| Elective (Graduate Level) | 3 |
| Graduate Seminar ¹ | 3 |
| | 15 |
| TOTAL | 60 |

FACULTY

Professors: Bumgardner; Campbell; Freed; Kevorkian (Chairman); Martin; Russell; Yarowsky
Emerita professor: Pollak
Associate Professors: Bradford; Donato; Wetton
Assistant Professors: Drought; Miller; Tisserat
Instructor: Blyn

¹Enrollment in the Graduate Seminar is mandatory for the duration of the student's study in the graduate program.

GRADUATE COURSES IN PAINTING AND PRINTMAKING (PAP)

525 Issues in Contemporary Visual Artss. Semester course; 3 lecture hours. 3 credits. May be repeated up to 6 credits. Prerequisite: painting and printmaking majors only. The investigation of content and meaning of major directions in contemporary art as they relate to the studio. Students will relate their own work to major movements in contemporary visual art.

527,528 Art and Critical Theory. Semester courses; 3 lecture hours. 3,3 credits. Prerequisite: general art history or equivalent. Reading and interpretation of major critical works on painting and related areas. First semester: modernist critics and later schools: Greenberg, Fried, Judd, Lippard. Second semester: structuralist criticism, analysis of theoretical aspects of conceptual art, recent major critical writing on painting.

605, 606, 607, 608 Graduate Painting. Semester courses; 6 or 12 studio hours. 3 or 6 credits. A studio class in which primary emphasis is placed on the creative disciplines of contemporary painting. Special attention is given to the development of personal expression through individual criticism.

615, 616, 617, 618, 619, 620 Graduate Printmaking. Semester courses; 6 or 12 studio hours. 3 or 6 credits. Specialization in one printmaking medium with emphasis upon technical research and the aesthetic suitability of design to medium. Individual and group criticism.

621, 622 Graduate Drawing. Semester courses; 6 studio hours. 3, 3 credits. A studio class with individual criticism. Special attention is given to contemporary concepts. Permission of instructor required for non-painting and printmaking majors.

651 Graduate Seminar. Semester course; 1,3 lecture hours. 1,3 credits. May be repeated. Degree requirement for graduate students in the Department of Painting and Printmaking. Weekly seminar for the purpose of discussion of recent artistic developments in painting and printmaking. Critiques dealing with student work will take place.

Department of Photography

The Department of Photography seeks through its graduate program to advance the highest standards of the media of photography and film by encouraging the creative and professional growth of both its students and faculty. The goal is to provide a forum for the development and exchange of visual ideas and to encourage its members to translate these ideas through the medium with a high degree of sensitivity and proficiency.

The program is meant to be flexible. Participants in the program may choose to emphasize their search for personal expression or they may work in the Design Center with

an emphasis on the application of their art to design problems. The program culminates with the presentation of a body of work, either visual or written and visual, that coherently expresses some aspect of the medium.

The successful candidate for the M.F.A. degree will be adequately prepared to continue to function as a working photographer and to begin a career in teaching or in photographic design.

ADMISSION REQUIREMENTS

Undergraduate Preparation: The 36 semester hour credits in studio art at the undergraduate level must include a minimum of nine semester hour credits in photography or cinematography.

Portfolio: Photography — a minimum of 20 recent photographs. Cinematography — A minimum of three recent films for which the applicant has had a primary responsibility in production. A video tape can be substituted for one of the films.

DEGREE REQUIREMENTS

The advanced study of photography and film is both broad and varied. Therefore, the program's requirements are flexible and determined by the needs of each student on an individual basis. There are, however, a few definite requirements. Each student must have on completion of the program a knowledge of contemporary art history and design, a more in-depth knowledge of the history of his discipline, be it still photography or film, and an understanding of the critical dialogue that is connected with his medium. The extent to which courses are suggested for students to meet these requirements depends on their background.

TYPICAL COURSE OF STUDY

| | <i>Credits</i> |
|---|----------------|
| Studio and/or Research (in major) | 15 |
| Graduate Seminar | 12 |
| Approved Electives | 9 |
| History of Photography or Film | 6 |
| Internship | 3 |
| Thesis | 3 |
| | 48 |

FACULTY

Professor: Nan (Chairman)
Associate Professors: Dixon; Heroy; Quarterman

Assistant Professors: Bremer; Lensen-Tomasson;
Strommer

GRADUATE COURSES IN PHOTOGRAPHY/FILM (PTY)

601 Photographic Studio. Semester course; 6, 12 studio hours. 3, 6 credits. May be repeated. Non-majors by permission of instructor. Students will work on specific problems relating to the areas of their major interests. Options will be available in black and white photography, color photography, and motion picture photography.

611 Fieldwork, Internship. Semester course; 6, 12 studio hours. 3, 6 credits. May be repeated. Professional field experience in the theoretical and practical applications of photography and/or film through cooperative organizations. Formal arrangements will be made with state agencies, industries, community organizations, and professionals in the field.

621 Research in Photography and Film. Semester course; 6, 12 studio hours. 3, 6 credits. May be repeated. Non-majors by permission of instructor. Students will engage in appropriate theoretical, experimental, or historical research in a specific area.

631 Seminar in Photography and Film. Semester course; 3 lecture hours. 3 credits. An examination of contemporary issues and developments in photography and film. Students will have a chance to discuss their work and the work of others. May be repeated.

Department of Sculpture

The Department of Sculpture exists for creative persons who wish to structure their ideas by manipulating tangible materials. The goals of the M.F.A. degree program in sculpture are to instill in students a sense of pride based on competence and to help them develop methods of working and an attitude which will sustain them in their professional growth as sculptors.

The department has a faculty of six teachers who represent a number of directions and attitudes related to the making of sculpture. These range from formal ideas involved with solutions in wood, steel, stone, and plastic, to those in video, music, and holography. The collective interaction of the students and faculty creates an exciting, provocative environment. The basic attitude of concern for the students in their development as individuals and artists can be observed in the strong quality of the student work.

*Enrollment in the Graduate Seminar is mandatory for the duration of the student's study in the graduate program.

The hallmark of the sculpture department is the development of the individual as an artist. The students are encouraged to assume the personal responsibility for their conduct as artists.

ADMISSION REQUIREMENTS, M.F.A.

In addition to the School of the Arts admission requirements shown on page 48, applicants in the visual arts must have completed a minimum of 36 semester hour credits in art at the undergraduate level.

DEGREE REQUIREMENTS, M.F.A. Program Pattern

| First Semester | Credits |
|---|---------|
| Studio (Graduate Sculpture) | 9 |
| Seminar in Contemporary Sculpture | 3 |
| Graduate Seminar | 3 |
| | 15 |

| Second Semester | Credits |
|---|---------|
| Studio (Graduate Sculpture) | 9 |
| Seminar in Contemporary Sculpture | 3 |
| Graduate Seminar | 3 |
| | 15 |

| Third Semester | Credits |
|---------------------------------------|---------|
| Studio (Graduate Sculpture) | 9 |
| Elective | 3 |
| Graduate Seminar | 3 |
| | 15 |

| Fourth Semester | Credits |
|---------------------------------------|---------|
| Studio (Graduate Sculpture) | 9 |
| Elective | 3 |
| Graduate Seminar* | 3 |
| | 15 |

TOTAL 60

FACULTY

Professors: Helfgott; North (Chairman); Renick
Associate Professors: Henry; Van Winkle
Assistant Professor: Seipel

GRADUATE COURSES IN SCULPTURE (SCU)

500, 600 Graduate Sculpture. Semester course; 8-10 studio hours. 4-5 credits. May be repeated. Emphasis on individual creative production with periodic exposure of student's work and ideas to the critical attention of the teaching faculty of the Department of Sculpture and other graduate students.

515 Graduate Seminar. Semester course; 1 or 3 lecture hours. 1 or 3 credits. May be repeated. Degree requirement for graduate students in the Department of Sculpture. Weekly seminar for the purpose of exploring recent developments in sculpture and conducting cri-

tiques in which students can discuss the ideas and attitudes manifest in their work.

517 Seminar in Contemporary Sculpture. Semester course; 3 lecture hours. 3 credits. prerequisite: ARH 430 or permission of instructor. A forum for consideration and discussion of recent developments in the field. May be repeated for a maximum of 12 credits.

613, 614 Advanced Graduate Sculpture. Semester courses; 8-10 studio hours. 4-5 credits each. May be repeated. Work directly related to the production of sculpture out of which a graduate exhibit may evolve.

Department of Theatre

The Department of Theatre offers intensive M.F.A. degree programs in performance, design, dramaturgy, and theatre education. The curriculum provides graduate students with the educational and professional foundations essential to attaining the highest standards in the art of the theatre. Applicants are admitted only upon satisfactory demonstration of ability and genuine interest through audition and interview. The demands of the program are stringent and only those students who are willing to commit themselves to the work in the department, who are capable of observing strict professional discipline, and who are in good health should apply.

The M.F.A. program is based on the philosophy that the nature of theatre requires the creative collaboration of all theatre artists working together as members of a company. All company members share the responsibility of solving problems relating to the planning, preparation, and realization of productions.

The curriculum consists of an intensive program of related practical and theoretical studies. Each semester a specific period of theatrical history — from the Greeks to the Contemporary/Experimental — will be chosen as an area of concentration. All company productions and performance events will reflect the period being studied.

ADMISSION REQUIREMENTS, M.F.A.

In addition to the School of the Arts admission requirements shown on page 48, applicants in theatre must have completed a minimum of 30 semester hour credits in theatre at the undergraduate level. Professional experience will also be considered.

An audition or presentation of portfolio is

required in addition to a personal interview which the applicant must arrange with the graduate advisor of the Department of Theatre.

Special Degree Option Requirements:

Performance (Acting and Directing). Students must present upon entrance at least six hours of undergraduate production or technical theatre course credit or the equivalent in professional experience.

Production (Costume and Stage Design). Students must present upon entrance at least six hours of undergraduate performance course credit or the equivalent in professional experience.

Dramaturgy. Students must present upon entrance at least three hours of undergraduate acting credit and three hours of undergraduate technical theatre credit or the equivalent in professional experience.

Theatre Education. Students must present upon entrance at least three hours of undergraduate acting or directing credit and three hours of undergraduate design or technical theatre credit or the equivalent in professional experience.

Deficiencies in any of these special degree option requirements may be satisfied at Virginia Commonwealth University but no graduate credit will be given for them. These prerequisites must be satisfied before the student may apply for candidacy.

CANDIDACY

After the completion of 15 and before the completion of 24 semester hours credit, or one full academic year, whichever comes first, the student seeking an advanced degree from the Department of Theatre, Virginia Commonwealth University, must apply for candidacy. Before applying for candidacy, candidates for the M.F.A. in *acting* must have completed two roles, at least one with a faculty director prior to applying for candidacy; in *directing* must have completed one stage management assignment and one directing assignment (which may be an apprenticeship); in *stage design* must have served in a design position of substantial authority for at least one departmental production; in *costume design* must have completed two costume design classes and served in a position of designated authority; in

dramaturgy must have served as assistant-to-the-director for one production and assistant-to-the-designer for one production, both faculty directed; and in *theatre education* must have completed one stage management assignment and one directing assignment (which may be an apprenticeship).

In addition to the requirements listed above for the various area specialties, the process of evaluation for advancement to candidacy may require the presentation of a portfolio and/or audition; written, oral, and/or practical testing; and other devices deemed by the Department of Theatre to be serviceable measurements to determine the prospective success of the candidate at the advanced level in the program. Each candidate for the Master of Fine Arts in theatre may stand for evaluation for admission to candidacy a second time if the evaluation for candidacy is unsuccessful. If, after the second evaluation, the student is denied candidacy, he is obliged to withdraw from the program. In special circumstances where unusual strength in another area is evidenced and when the student is acceptable to the graduate faculty, he may be invited to transfer into another degree option. The completion of 18 semester hours credit is the latest point at which a student may transfer into another degree option without loss of credits.

Prior to applying for candidacy all students in all degree options in the M.F.A. program in theatre must satisfy the following *non-credit degree requirement*: Theatre History, six semester credits. This undergraduate course must be taken at this university unless exempted by test. If required to enroll in Theatre 307-308: Theatre History, the student will receive no semester credits towards the M.F.A. credit hour requirements. The exemption test must be taken no later than the end of the first semester of matriculation and may be attempted twice.

DEGREE REQUIREMENTS, M.F.A.

Core Requirements

Candidates for the M.F.A. in theatre in the areas of acting, directing, costume design, stage design/technical theatre, and dramaturgy must satisfy the following core requirements in addition to the requirements

of their special area. Theatre education candidates see below.

- A. Theatre 603-604: Theory and Criticism . . . 6 credits
- B. Theatre Literature . . . 6 credits

(Both Theatre 603-604 and Theatre Literature may be exempted on the basis of an oral, written, or practical test administered between the date of admission to the program and the first matriculation period, or on the basis of the undergraduate transcript. If 3 or 6 hours in either or both areas are exempted, the student must select the number of hours exempted in approved electives.)

- C. Theatre 609: Seminar in Production
Process . . . 6 credits
- D. Arts 701: Thesis . . . 3 credits

TOTAL . . . 21 credits

PROGRAM PATTERNS

| ACTING | Credits |
|---|---------|
| Colloquium and Practical Training | 12 |
| Production | 12 |
| Graduate Acting | 3 |
| Approved Electives | 12 |
| Core | 21 |
| | 60 |

| DIRECTING | |
|------------------------------|----|
| Directing | 12 |
| Internships | 6 |
| Minor emphasis | 9 |
| Theatre Literature | |
| Design | |
| Acting | |
| Approved Electives | 12 |
| Core | 21 |
| | 60 |

STAGE DESIGN/TECHNICAL

| THEATRE | |
|---------------------------------------|----|
| Stage Design | 12 |
| Costume Design | 6 |
| Scene Painting | 3 |
| Light Design | 6 |
| Advanced Theatre Technology | 3 |
| Approved Electives | 9 |
| Core | 21 |
| | 60 |

COSTUME DESIGN

| | |
|---------------------------------------|----|
| Costume Design | 12 |
| Scene Design | 6 |
| Light Design | 3 |
| Advanced Theatre Technology | 3 |
| Approved Electives | 15 |
| Core | 21 |
| | 60 |

DRAMATURGY

| | |
|---|----|
| Area of Concentration | |
| Major Emphasis. | 9 |
| American Dramatic Literature | |
| British Dramatic Literature | |
| Dramatic Literature in Translation | |
| Minor Emphasis. | 6 |
| Arts in General | |
| Art History | |
| Music History | |
| Art or Music Criticism | |
| Aesthetics | |
| World Literature | |
| Cultural History or Anthropology | |
| Philosophy and Religion | |
| Secondary Area of Concentration | 12 |
| Directing | |
| Management | |
| Administration | |
| Internship | 3 |
| Approved Electives | 9 |
| Core | 21 |
| | 60 |

THEATRE EDUCATION

The Master of Fine Arts in theatre education will take the following sequence of courses; the student will not be required to satisfy the core requirements for degree options in acting, directing, costume or stage design, or dramaturgy.

| | |
|---|----------------|
| | <i>Credits</i> |
| Dramatic Theory and Criticism | 6 |
| Theatre Literature | 6 |
| Special Area Requirements: | |
| Design | 6 |
| Scene Design | |
| Costume Design | |
| Lighting Design | |
| Sound Design | |
| Performance | 6 |
| Acting | |
| Directing | |
| Rehearsal and Performance | |
| Management/Administration | 3 |
| State Management | |
| Theatre Administration | |
| Creative Dramatics | 6 |
| Speech and Theatre Methods | 3 |
| Theatre Education Curriculum Evaluation | 3 |
| Theatre Education Professional Internship | 12 |
| Approved Electives | 9 |
| | 60 |

Phase One — all course work except Creative Dramatics, Speech and Theatre Methods, Curriculum Evaluation, and Professional Internship.

| | |
|--------------------------------------|----------------|
| Phase Two | <i>Credits</i> |
| Summer One: | |
| Creative Dramatics | 3 |
| Speech and Theatre Methods | 3 |
| Academic Year: | |
| Professional Internship | 12 |
| Summer Two: | |
| Creative Dramatics | 3 |
| Curriculum Evaluation | 3 |

Research and Documentation, Theatre Education

A final report for Theatre Education Professional Internship is a degree requirement. Upon completion of the degree requirements four copies of this report will be prepared in accordance with School of the Arts procedures.

FACULTY

Professors: Campbell (Chairman); Holloway
 Emeritus Professor: Hodges
 Associate Professors: Janke; Newdick; Parker
 Assistant Professors: Bennett; Erickson; Hopper, E.;
 Hopper, G.; Pike
 Instructor: Clark

GRADUATE COURSES IN THEATRE (THE)

SPE 501, 502 Professional Internship. Semester courses; 3-9 credits. Prerequisite: permission of department chairman. A practicum in theatre conducted in cooperation with professional or semi-professional theatre organizations. Majors only.

SPE 508 Speech for Teachers. Semester course; 3 lecture hours. 3 credits. Principles and practice for the prospective or in-service teacher in creative oral expression in the classroom, as well as in interpersonal and public communication. Emphasis on the role of the teacher as listener. Voice and articulation exercises.

SPE/THE 519 Speech and Theatre Methods. Semester course; 3 lecture hours. 3 credits. A study of the basic methods used in the teaching of drama and speech in the secondary school.

SPE 521 Speech for Business and the Professions. Semester course; 3 credits. Theory and practice in the oral communication process as it relates to business organizations and the professions. Development of expository and persuasive subject matter with presentation in simulated interpersonal and group situations.

501, 502 Professional Internship. Semester courses; 3-9 credits. Prerequisite: permission of department chairman. A practicum in theatre conducted in cooperation with selected professional or semi-professional theatre organizations. Majors only.

503, 504 History of Dramatic Literature. Semester courses; 3 lecture hours. 3, 3 credits. Study and analysis of dramatic literature.

505-506 Advanced Stage Design. Continuous course; 1 lecture and 4 studio hours. 3-3 credits. Prerequisite: THE 305-306 or permission of instructor. A more advanced study of the techniques, methods, and problems of scene design. participation in departmental productions.

507 Advanced Scenic Technique. Semester course; 1 lecture and 4 studio hours. 3 credits. Prerequisite: THE 221 or permission of instructor. An intensive involvement in contemporary theory and practice of scenic techniques. Participation in departmental productions.

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508 Scene Painting. Semester course; 1 lecture and 4 studio hours. 3 credits. Methods of painting scenery based on traditional and contemporary theories. Participation in departmental productions. This course may be repeated for a maximum of 9 credits.

511-512 Practicum in Theatre for Special Populations. Continuous course; 1 lecture and 4 studio hours. 3-3 credits. Prerequisite: permission of instructor. A study of theatre principles and techniques as they apply to the exceptional and handicapped student. A supervised practicum in the application of theatre curricula design and teaching methodology to the special needs of the institutionalized, incarcerated, and other atypical populations.

513-514 Acting Styles. Continuous course; 6 studio hours. 3-3 credits. A study of the history and theory of acting styles from the Greeks to the present.

515, 516 Practicum in Creative Dramatics. Semester courses; 1 lecture and 4 studio hours. 3, 3 credits. A study of the theory of creative dramatics as it applies to elementary and secondary school education. A supervised practicum in the application of theory to classroom methods.

521, 522 Advanced Costume Design. Semester courses; 2 lecture and 2 studio hours. 3, 3 credits. Prerequisite: THE 321-322 and permission of instructor. An advanced study of the techniques, methods, and problems of costume design for the student who plans to enter the field professionally.

523, 524 Modern Drama. Semester courses; 3 lecture hours. 3, 3 credits. Intensive study of major Continental and American plays.

525 Theatre Administration. Semester course; 3 lecture hours. 3 credits. The business aspects of successful theatre operation — college, commercial, community, regional — from basic purchasing methods to publicity and "house" operation for the finished product.

526, 527 Playwriting. Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: permission of instructor. A practical introduction to the creation of original play scripts for theatre, television, and motion pictures. Readings and studio performances of works in progress and completed scripts.

528 Puppetry. Semester course; 2 lecture and 2 studio hours. 3 credits. A study of puppetry as a serious and dynamic performing art, explored through its historical traditions and practical applications.

532-533 Living Newspaper. Continuous course; 2 lecture and 2 studio hours. 3-3 credits. An analysis of the development and methodologies of the living newspaper, a dramatization of contemporary events, in its historical context. Application of its techniques to create original living newspaper scripts.

540, 541 Theatre Projects. Semester courses; 1 or 2 lecture and 4 or 8 laboratory hours. 3 or 6 credits per semester. Individual or group projects in acting, direct-

ing, costume design, stage design, or dramaturgy. Open only to theatre majors.

561, 562 Advanced Directing. Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: THE 361-362. Further study in direction techniques, especially the problems of the full-length play.

595 Special Issues in Theatre. Semester course; variable credit. 1-3 credits per semester; may be repeated for a maximum of 9 credits. Prerequisite: permission of instructor. An in-depth study of contemporary issues not included in the regular curriculum. See Schedule of Classes for specific offerings each semester.

603-604 Dramatic Criticism and Theory. Continuous course; 3 lecture hours. 3-3 credits. The major dramatic theories from Aristotle to the twentieth century and associated movements as they affect the development of Western drama.

606 Research and Special Problems in Theatre. Semester course; 1, 3 lecture hours. 1, 3 credits. Individually directed study and research under faculty supervision on approved research problems or projects in theatre. May be repeated with permission of graduate advisor.

607 Introduction to Graduate Study in Speech and Drama. Semester course; 3 credits. A study of methods used in graduate research in drama and speech.

609 Seminar in Production Process. Semester course; 1 lecture and 4 laboratory hours. 3 credits. May be repeated with a change of topic for a maximum of 9 credits. Students and faculty in design, technical theatre, and performance working together in studio situations to identify and solve problems relating to the planning, preparation, and realization of productions.

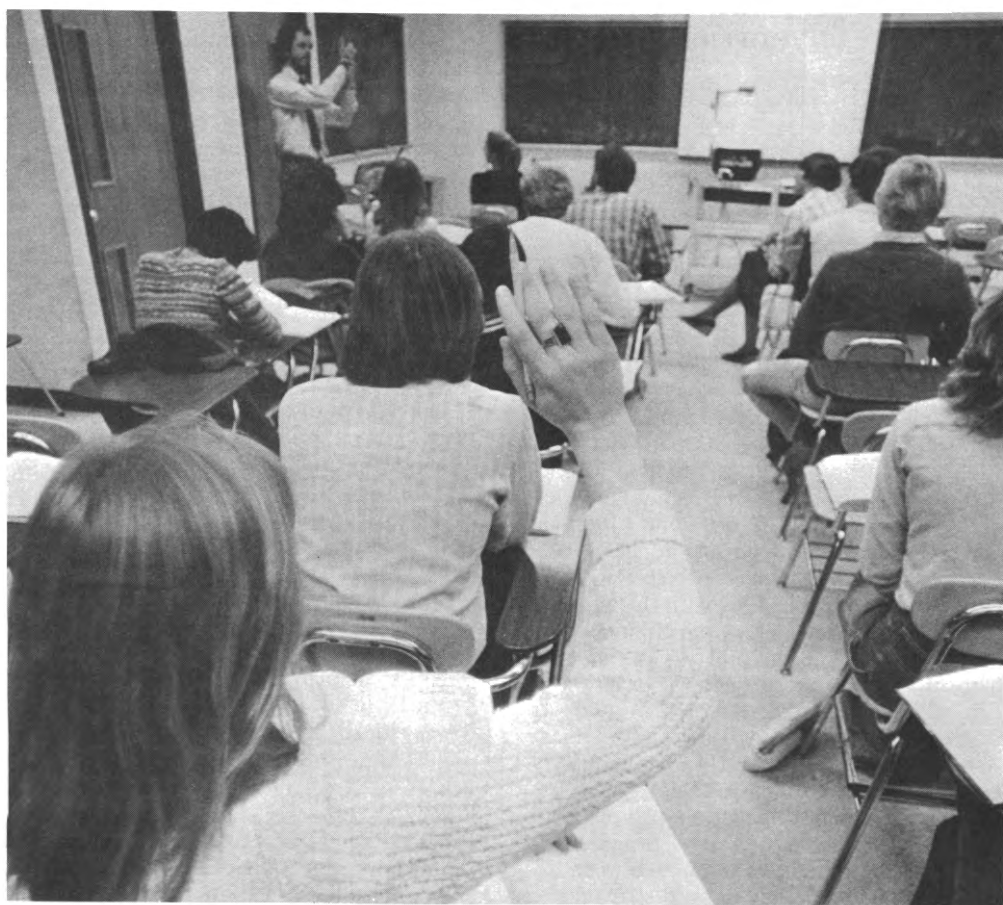
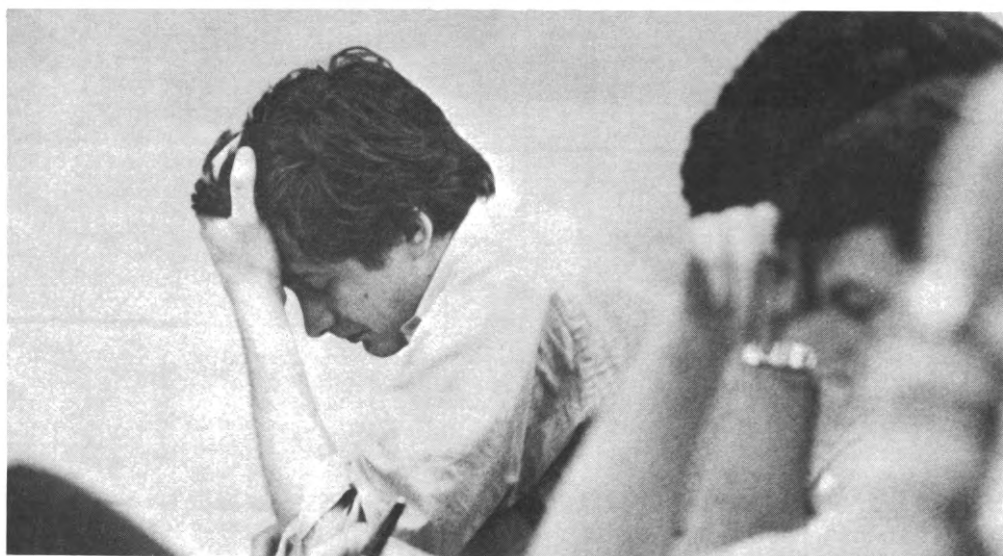
613 Workshop in Acting. Semester course; 1 credit, 1 lecture and 2 studio hours. May be repeated for a maximum of 3 credits. Focus on acting problems related to the individual actor's needs to develop proficiency in certain areas.

630 Production. Semester course; 6 laboratory hours. 3 credits. The design, rehearsal, and performance of dramatic works. May be repeated.

635 Colloquium and Practical Training. Semester course; 2 lecture and 2 studio hours. 3 credits. Literary, historical, and theoretical studies together with specialized voice and movement training related to dramatic works in production. May be repeated for a maximum of 12 credits.

651 Advanced Design Studio. Semester course. 1 lecture and 4 laboratory hours. May be repeated. Intensive individual training in design and presentation processes as they apply to contemporary professional production.

687-688 Theatre Education Professional Internship. Continuous course; 6-6 credits. Prerequisites: Theatre 515 or 516 and 519 and permission of the graduate advisor in theatre. Research, design, and either implementation or thoroughly planned implementation of a curricular research and development project of relevance to a formal speech and/or theatre education program.



PART IV—School of Arts and Sciences

Note: Effective July 1, 1981, the School of Arts and Sciences has been renamed the College of Humanities and Sciences.

ADMINISTRATIVE OFFICERS

ELSKE VAN PANHUYS SMITH, B.S., M.S., Ph.D.
Dean

WILLIAM A. GLYNN, B.S., M.S., Ph.D.
Associate Dean

JOHN H. BORGARD, A.B., M.A., Ed.D.
Assistant Dean

WILLIAM A. DOBBIE, B.A., M.A., M.S., Ed.D.
Assistant Dean

DAVID W. HARTMAN, B.A., M.A., Ph.D.
Director of Continuing Education

The School of Arts and Sciences was organized in 1966 as a combination of several existing departments at Richmond Professional Institute: biology, chemistry, English, foreign languages, and history and political science. The Departments of Philosophy and Religious Studies, Mathematical Sciences, Physics, Psychology, Sociology and Anthropology, and Political Science were developed or added subsequently. Arts and Sciences began its first graduate programs in 1969 with the master's programs in psychology and sociology. Master's programs in biology and mathematical sciences and a doctoral program in clinical psychology were added in 1971. A master's program in English/English education was begun in 1974 cooperatively between the Department of English and the Division of Teacher Education of the School of Education. The graduate program in chemistry, a cooperative venture between the Departments of Chemistry on the Academic

Campus and Pharmaceutical Chemistry on the MCV Campus, was administratively transferred to the School of Arts and Sciences in 1974. A master's degree in mass communications was begun in 1976, and a doctoral program in social policy and social work was begun in 1978 cooperatively between the Department of Sociology and Anthropology and the School of Social Work.

GRADUATE PROGRAM IN THE SCHOOL OF ARTS AND SCIENCES

The School of Arts and Sciences offers the following graduate degree programs:

M. A. in English/English education
(with

the School of Education)

M. S. in biology

M. S. and Ph.D. in chemistry

M. S. in mass communications

M. S. in mathematical sciences

M. S. and Ph.D. in psychology

M. S. in sociology

Ph.D. in social policy and social work
(with the School of Social Work.)

In addition to these degree programs the School of Arts and Sciences offers selected graduate courses in the Departments of Foreign Languages, History and Geography, Philosophy and Religious Studies, Physics, and Political Science, but does not offer

graduate degree programs in these departments.

REQUIREMENTS FOR ADMISSION

Persons seeking admission to any of the graduate programs in Arts and Sciences (1) should have a bachelor's degree in the discipline in which application for graduate study is made or, in some programs as noted, a bachelor's degree in some other appropriate area; (2) should submit Graduate Record Examination scores (some departments require the scores on the advanced GRE within the discipline); and (3) should have submitted letters of recommendation which comment on the applicant's ability to undertake graduate study in the specified area.

All applications will be considered in terms of the specific requirements for admission noted in the description of the individual programs and of the applicant's ability to perform satisfactorily in the program for which he/she has applied. The judgment of that ability will be based on the supporting material submitted with the application. Some graduate programs must limit enrollment to a fixed number of the best-qualified applicants. Final action on admission is taken by the dean of the School of Graduate Studies in consultation with the School of Arts and Sciences and the department concerned.

Persons applying for admission to any of the graduate programs listed above must:

1. Submit an application on forms secured from the Office of the Dean of the School of Arts and Sciences or the Office of the Dean of the School of Graduate Studies. The applicant should follow all instructions on the forms.
2. Arrange to have two official transcripts sent from each institution attended as an undergraduate and two official transcripts of all work undertaken beyond the bachelor's degree. These transcripts must be sent to the dean of the School of Graduate Studies, Virginia Commonwealth University, P.O. Box 568, MCV Station, Richmond, VA 23298, directly from the institution attended; copies

will not be accepted from the applicant.

3. Order Graduate Record Examination scores, including the advanced score in the area of specialty, to be sent directly to the dean of the School of Graduate Studies from the Educational Testing Service.
4. Submit a letter to the dean of the School of Graduate Studies stating the applicant's reason for desiring to undertake graduate study.
5. Arrange for three academic letters of recommendation (on forms furnished the applicant) to be sent directly to the dean of the School of Graduate Studies.
6. Include an application fee of \$10 made payable to Virginia Commonwealth University. This fee cannot be waived or refunded.

Applicants whose applications reach the university after July 1 for the fall semester and after November 15 for the spring semester should not expect their applications to be processed in time for registration. The applicant whose application arrives late may be considered for admission as a special student, but there is no guarantee that the special student will be accepted later into a degree program. For special psychology deadlines see Department of Psychology section of this bulletin.

REGISTRATION

Although most students register for the first semester, which begins in August, they may arrange to begin graduate work during the spring semester except for the programs in clinical and counseling psychology.

SCHOLARSHIPS, ASSISTANTSHIPS, AND FELLOWSHIPS

See departmental listings.

THE STUDENT ADVISOR AND THE GRADUATE COMMITTEE

All departments offering graduate degrees in the School of Arts and Sciences provide graduate students with advising either through a single advisor, the student's graduate committee, or a departmental graduate committee. For details the student

should consult the departmental director of graduate studies or the departmental chairman.

Students are required to submit in advance of the date when they expect to receive a degree a Graduation Application Form and a Degree Completion Form (Form 3.1) to the dean of the School of Arts and Sciences. Deadlines for the submission of the Graduation Application Form are listed in the calendar at the front of this bulletin; deadlines for submission of the Degree Completion Form will be posted in the departments; for departmental deadlines the student should consult the departmental advisor. Individual departments may require additional forms.

REQUIREMENTS FOR GRADUATE DEGREES

1. Full-time graduate status shall consist of a minimum of nine and a maximum of 16 credits pre semester. No more than 12 semester credits may be earned in a summer semester.
2. A graduate student is required to maintain an overall grade point average of 3.0 ("B"). (See item 4 below.) A student who does not maintain a "B" average during the course of his program may be dropped from the program at any time on recommendation of the appropriate department committee to the dean. If a student earns less than a "B" on 20 percent or more of all attempted credits, his graduate status must be reviewed for continuation by the appropriate department committee.
3. At least half of the credits required in the student's program must be those designated as exclusively for graduate students; that is, those at the 600 level or above.
4. A graduate student must have earned an overall grade point average of 3.0 ("B") in order to receive a degree.

In addition to these requirements and those set forth in Part I of this bulletin, students must meet the requirements for

specific degrees set forth in the departmental listings.

Department of Biology

FACULTY

Professors: Brown (Chairman); Goldstein; Hall; Johnson; Mills

Associate Professors: Blem; Chinnici; Jeffrey; Kimbrough; Llewellyn; Martin; Pagels; Reynolds; Seidenberg

Assistant Professors: Conway; Farnham; Fine; Fisher; Gates; Giebel; McCowen; Scanlan; Smock; Webb; Weinstein

The Department of Biology offers thesis and non-thesis programs leading to a Master of Science. The non-thesis program is intended primarily for science teachers. Students intending to pursue a career in the biological sciences should elect the thesis option.

Areas of specialization are environmental biology, systematic biology, developmental biology, behavioral biology, cellular biology, molecular biology, aquatic biology, and comparative physiology.¹

In addition to the graduate courses offered by the Department of Biology, a graduate student may enroll with departmental permission in graduate courses offered at the Medical College of Virginia Campus in the Departments of Anatomy, Biochemistry, Biophysics, Biostatistics, Human Genetics, Microbiology, Pharmacology, and Physiology.

Thesis degree candidates are required to take a minimum of 32 semester hours of credit (half of which must be at the 600 level or above) which must include a minimum of two and a maximum of four credit hours in seminar, a minimum of six credit hours in research and thesis (Only six credit hours in research can be counted for the degree.), and a minimum of four lecture courses under three different faculty members, exclusive of research and thesis, seminar, and problems courses. All graduate students must take STA 543 at their earliest possible opportunity. STA 544 or its equivalent is strongly recommended. Students entering the program with a statistics background equivalent to STA 543 may have this requirement waived with the permission of the chairman of the Department of Biology. Problems courses may be used as elective but only six

¹Students interested in pursuing a Master of Science degree in human physiology should consult the Department of Physiology at the Medical College of Virginia Campus of Virginia Commonwealth University.

credit hours may apply toward the degree requirement and only three credit hours of any one course number may be taken. A maximum of six graduate credit hours of work taken at other institutions may be transferred if they meet departmental approval. Each student will be required to pass a final examination which will cover course content and research.

Non-thesis degree candidates are required to take a minimum of 36 semester hours of credit which must include: a minimum of two and a maximum of four credit hours in seminar; a minimum of six biology courses under four different faculty, exclusive of seminar and problems courses; and two semesters (six credit hours) of Problems in Biology, each under the direction of a different faculty member representing two of the following BIOAREAS: Cellular/Molecular, Organismal, Environmental, and General. Each student will be required to make both an oral and a written report on each problems course. All graduate students must take STA 543 at their earliest opportunity. Students entering the program with a statistics background equivalent to STA 543 may have this requirement waived with permission of the chairman of the Department of Biology. STA 544 or its equivalent is strongly recommended. In addition to these biology and statistics requirements, a student may elect, with the approval of the student's graduate committee, two courses outside of biology. A maximum of six graduate credit hours of work taken at other institutions may be transferred if they meet department approval. Each student must pass a final comprehensive examination which will cover course work.

Continuous enrollment in the graduate program is anticipated. Interruption in continuous enrollment for any reason will require that students reapply to the Department of Biology's Graduate Admissions Committee.

In addition to the general requirements for admission to graduate programs in the School of Arts and Sciences, the following requirements of the Department of Biology represent the minimum acceptable standards for admission:

1. Thirty semester credits in undergraduate biology.

2. Two years of college chemistry, including organic chemistry.
3. One year of college mathematics.
4. One year of college physics.
5. Three letters of recommendation pertaining to the student's potential ability as a graduate student in biology.
6. Graduate Record Examination scores, including those of the advanced biology examination.

Provisional admission may be granted when deficiencies exist. These deficiencies must be removed by the end of the first year of residence, at which time the student's application will be re-examined. Courses which are remedial or designed to remove deficiencies will not be accepted for credit toward the fulfillment of the course requirements for the master's degree.

Students must elect a thesis or non-thesis program prior to formation of the student's graduate committee.

GRADUATE MINOR IN BIOLOGY

A minimum of nine semester hours excluding seminar and limited to no more than one problems course (3 credits).

GRADUATE COURSES IN BIOLOGY (BIO)

503 Biology of the Fishes. Semester course; 2 lecture and 6 laboratory hours. 4 credits. Prerequisite: BIO 301 or permission of instructor. Evolution, taxonomy, structure, behavior, and ecology of fishes. Laboratory work will include special field trips for the collection of specimens.

506 Mycology. Semester course; 2 lecture and 6 laboratory hours. 4 credits. Prerequisite: 16 credits of biology including BIO 319 or equivalent. The morphology, identification, and laboratory culture of fungi.

507 Aquatic Microbiology. Semester course; 2 lecture and 4 laboratory hours. 4 credits. Prerequisite: BIO 303 and BIO 307 or equivalents. This course will involve a practical approach to the methods used to culture, identify, and enumerate specific microorganisms which affect the cycling of elements in aquatic systems and those which affect or indicate water quality.

509 Plant Anatomy. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: BIO 320. Preparation and study of the development of cells, tissues, and organs of seed plants.

510 Plant Taxonomy. Semester course; 1 lecture and 5 laboratory hours. 3 credits. Prerequisite: BIO 101, L101, 102, L102, or permission of instructor. Systematic survey of the vascular plant families with empha-

sis on relationships. Some field trips for observing local flora.

512 Radiation Biology. Semester course; 3 lecture hours. 3 credits. Prerequisite: 16 credits in science, including eight credits in biology and/or permission of instructor. A presentation by a series of lectures and demonstrations of the fundamentals of radioactivity, including the properties of radiation and the application of radioisotopes and tracer methodology to the biological sciences and nuclear medicine. Included are the biological effects of ionizing radiation on living systems and the theoretical and practical aspects of radiation protection.

L512 Radiation Biology Laboratory. Semester course; 3 laboratory hours. 1 credit. Prerequisite or co-requisite: BIO 512. A series of laboratory experiences applying the practical aspects of radiometric determinations to the various areas of biology, including physiology.

513 Parasitology. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: 14 credits in biology or permission of instructor. A survey of the life cycles, classification, host-parasite relationships, and general biology of animal parasites.

514 Advanced Aquatic Ecology. Semester course; 2 lecture and 6 laboratory hours. 4 credits. Prerequisite: BIO 307 or equivalent. Prerequisite or co-requisite: BIO 317 or equivalent. An advanced quantitative and analytical approach to the study of aquatic ecosystems, stressing current ecological theories and research with application to ecosystems modeling, systems analysis, fish, and aquatic resource management; laboratory experimentation, individual experimentation, individual student research, and presentations will be required.

515 Aquatic Macrophytes. Semester course; 1 lecture and 5 laboratory hours. 3 credits. Prerequisite: BIO 410. Field and laboratory study of vascular plants of aquatic habitats; includes collection, identification, and consideration of the ecology, morphology, and economic value of aquatic macrophytes.

516 Ornithology. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisites: BIO 101,102, or permission of instructor. Basic biology of birds with emphasis on their role in the environment.

517 Mammalogy. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: BIO 101,102, and permission of instructor. Study of the characteristics, adaptive radiation, and distribution of mammals with emphasis on North American forms.

518 Plant Ecology. Semester course; 3 lecture and 2 laboratory hours; two three-day field trips required. 4 credits. Prerequisite: BIO 317 or permission of instructor. A lecture, field, and laboratory course concerned with the development, succession, and dynamics of plant communities and their interrelations with climate, soil, biotic, and historic factors.

520 Plant Physiology. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisites: BIO 218 and 319 or 320 and CHE 301-302. Cell structure and functions, water relations, inorganic plant nutrition, metabolism, plant growth regulators.

522 Evolution and Speciation. Semester course; 3 lecture hours. 3 credits. Prerequisite: BIO 310 or equivalent. Study of evolutionary principles, with emphasis on genetic and environmental factors leading to changes in large and small populations of plants and animals, and the mechanisms responsible for speciation.

524 Endocrinology. Semester course; 3 lecture hours. 3 credits. Prerequisite: BIO 311 and CHE 301 and 302 or permission of instructor. Study of hormonal control systems at the organ, tissue, and cellular level; although the major emphasis will be on vertebrate endocrine systems, some discussion of invertebrate and plant control systems will be covered.

525 Advanced Functional Anatomy. Semester course; 3 lecture and 4 laboratory hours. 5 credits. Prerequisite: BIO 205 or equivalent or permission of instructor. A study of the anatomy and kinesiology of the human body using prosected specimens and the dissected cadaver. Emphasis is placed upon the study of the extremities, particularly the hand. Intended primarily for students in the Department of Occupational Therapy.

529 Advanced Functional Neuroanatomy. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: BIO 525 or permission of instructor. A study of the morphological and functional aspects of the central and peripheral nervous systems of the human body with particular emphasis on motor activity.

535 Herpetology. Semester course; 3 lecture hours. 3 credits. Prerequisite: BIO 301 or permission of instructor. A study of the phylogeny, natural history, and adaptation of amphibians and reptiles.

536 Laboratory in Herpetology. Semester course; 1 credit. Prerequisites: BIO 301 or permission of instructor. Exercises in the anatomy, classification, and behavior of amphibians and reptiles. Two weekend field trips required.

539 Advanced Human Physiology. Semester course; 4 lecture and 2 laboratory hours. 5 credits. Prerequisites: BIO 206, or BIO 311, or equivalent, and permission of the instructor. Intended primarily for graduate students in the School of Nursing; may be taken by others with permission. This course will present physiology from a feedback control-systems point of view as a common theme for the various organ systems; it will then examine various pathophysiological situations as logical cause-and-effect relationships resulting from perturbations in the normal physiological homeostatic mechanisms. The weekly laboratory/demonstration periods will employ both "hands on" and demonstration types of exercises in order to reiterate and to strengthen points made in the lecture portion of the course.

550 Developmental Biology. Semester course; 2 lecture, 1 recitation, and 4 laboratory hours. 4 credits. Prerequisites: BIO 302 and 319 or 320. Study of cellular/molecular mechanisms of differentiation during embryonic and post-embryonic development in animals and plants. How genetic control at various levels can lead to cell differentiation will be investigated in a number of developing systems: animal and plant embryos, seed germination, fern gametophyte, insect and amphibian metamorphosis, and animal regeneration. Laboratory work includes observation of development-

tal processes and experimental work using living material.

555 Immunology and Serology. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: 16 credits in biology including BIO 218 and eight credits in chemistry. Basic aspects of the immune response in higher animals. Study of the serological techniques used in biological research.

562 Comparative Morphology of Vascular Plants. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: six credits in botany or permission of instructor. A study of the relationships between the various taxa of the Tracheophytes, based upon examination and comparison of organ development.

570,571 Selected Topics in Botany. Semester courses; 3 lecture hours. 3,3 credits. Prerequisites: BIO 319 and 320 or permission of instructor. Selected topics and in-depth study in a specific area of botany. See Schedule of Classes for specific topic(s) and prerequisites.

575 Physiology of the Cell. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisites: Chem 301, 301L, 302, 302L, and at least one of the following biology courses: BIO 302, 303, 311, 375, or equivalents. A study of the physiological principles of cellular function in bacterial, plant, and animal cells. The lecture topics include gases, electrolytes, radiations, temperature, membrane transport, bioelectricity, and cell movements. The laboratory will stress investigative techniques.

585 Virology. Semester course; 3 lecture hours. 3 credits. Prerequisites: 16 credits in biology including BIO 218 or equivalent and 8 credits in chemistry. A comprehensive introduction to virology encompassing viruses of vertebrates, invertebrates, plants, and bacteria. Topics include physical and chemical characterization, classification, detection, replication, genetics, diseases, immunology, epidemiology, and interactions of viruses.

595 Topics in Biology. Semester course; variable credit. Maximum 3 credits per semester. An in-depth study of a selected topic in biology. See Schedule of Classes for specific topic(s) and prerequisites.

600 Research and Thesis. Semester course; credits and hours to be arranged. Independent research by students in areas of systematics, environmental, developmental, behavioral, cellular, and molecular biology, and comparative physiology.

601 Seminar. Semester course; 1 credit. Independent reading and study in selected areas of biology leading to an oral presentation by students. May be repeated for credit.

607-608 Topics in Genetics and Molecular Biology. Semester courses; 1, 2, or 3 credits. Studies of particular areas in genetics and molecular biology. Concurrent sections may be offered.

609,610 Problems in Biology. Semester courses; credits and hours to be arranged. A course designed to provide an opportunity for independent research in any area of biology outside the graduate student thesis area. Determination of the amount of credit and permission of in-

structor, advisor, and department chairman must be obtained prior to registration for this course.

611-612 Topics in Systematics. Semester courses; 3, 3 credits. Studies of particular areas in systematic biology. Concurrent sections may be offered.

613-614 Topics in Environmental Biology. Semester courses; 3, 3 credits. Studies of particular areas in environmental biology. Concurrent sections may be offered.

615-616 Topics in Developmental and Behavioral Biology. Semester courses; 3, 3 credits. Studies of particular areas in developmental and behavioral biology. Concurrent sections may be offered.

617-618 Topics in Physiology. Semester courses; 3, 3 credits. Studies of particular areas in physiology. Concurrent sections may be offered.

619 Aquatic Entomology. Semester course; 2 lecture and 3 laboratory hours. 3 credits. Prerequisite: BIO 309. A taxonomic and ecological study of aquatic insects (both freshwater and marine) with emphasis upon the immature stages, life histories, and distributional responses to different aquatic habitats.

620 Mycotoxins. Semester course; 3 lecture hours. Prerequisite: mycology or equivalent. A lecture course with some field and laboratory study involving fungal toxins, their biological and chemical properties, and their occurrence in feed and foods. Particular emphasis will be placed on the aflatoxins and their effects on plant and animal systems. Control measures will be discussed.

624 Plant Systematics. Semester course; 3 lecture hours. 3 credits. Prerequisite: BIO 510 or a course in plant taxonomy. A lecture course in plant systematics. A study of experimental methods for solving taxonomic and systematic problems in the vascular plants.

626 Physiological Ecology. Semester course; 3 lecture and 4 laboratory hours. 4 credits. Prerequisite: BIO 317 or 414 or equivalent. Studies of the physiological adjustments and adaptations made by organisms in response to their environment.

627 Animal Behavior. Semester course; 2 lecture and 3 laboratory hours. 3 credits. Prerequisites: BIO 311 and 317 or permission of instructor. The study of physiological and environmental factors in the patterns and mechanisms of animal behavior.

680 Algal Ecology. Semester course; 2 lecture and 6 laboratory hours. 4 credits. Prerequisite: BIO 414/514 or permission of instructor. An ecological approach to the study of freshwater and marine algae. The identification, morphology, life cycles, and culture of major algae divisions. Review of recent literature and discussion of selected topics in algae and behavioral biology. Concurrent sections may be offered.

682 Marine Biology. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: BIO 414/514 or permission of instructor. A lecture, field, and laboratory course concerned with the working principles of biological oceanography and estuarine ecology. A study of selected marine faunal and floral communities

and their interactions, particularly as they influence man and the environment.

Department of Chemistry

FACULTY

Professors: Winters (Chairman); Bass; Melson;

Ottenbrite; Stump; Vallarino

Emerita Professor: Kapp

Associate Professors: Hawkridge; Shillady; Silvers

Assistant Professors: Kobos; Sneden; Topich

The Department of Chemistry offers programs leading to the Master of Science and Doctor of Philosophy degrees. The programs provide opportunities for concentrated study in either analytical, inorganic, organic, or physical chemistry. A plan of study is worked out for each student to insure a sound basis for research. In keeping with the university's commitment as an urban institution, the department also offers part-time programs leading to these degrees.

For admission, a student is expected to have a bachelor's degree from an accredited college or university with 30 semester credits in chemistry. Admission on a special basis is possible for a student temporarily lacking this expected chemistry background. Acceptance is based upon undergraduate performance, satisfactory scores on the Graduate Record Examination and letters of recommendation.

Graduate students in the Department of Chemistry may receive financial support via teaching or research assistantships or fellowships. Admission forms for graduate study and applications for fellowships and assistantships are available on request by writing to the dean of the School of Graduate Studies, Virginia Commonwealth University, Box 568, MCV Station, Richmond, VA 23298.

DEGREE REQUIREMENTS

Entering graduate students are required to take proficiency examinations in analytical, inorganic, organic, and physical chemistry. These examinations are at the level of sound undergraduate courses and are offered preceding the start of the school's fall semester and after the end of the spring semester. These are used to evaluate the student's strength and weaknesses and the student's program is planned accordingly. The proficiency

examinations may be repeated and must be completed by the end of the second year of study.

Students preparing for the M.S. degree must demonstrate competency in analytical, inorganic, organic, and physical chemistry. New students who do well on the proficiency examinations may, by decision of the chemistry faculty, be considered to have demonstrated the necessary competency. The M.S. student is expected to earn a minimum of 18 semester credits in graduate courses in chemistry, not including credit for seminar, and 12 semester credits in research. The credit hours must include a course selected from each of the four areas: Analytical, Chemistry 532 Advanced Analytical Chemistry, Chemistry 630 Electroanalytical Chemistry; Inorganic, Chemistry 620 Advanced Inorganic Chemistry I, Chemistry 621 Advanced Inorganic Chemistry II; Organic, Chemistry 504 Advanced Organic Chemistry I, Chemistry 604 Advanced Organic Chemistry II, Chemistry 605 Physical Organic Chemistry, Chemistry 606 Methods of Structural Determination in Organic Chemistry; Physical, Chemistry 510 Atomic and Molecular Structure, Chemistry 610 Applied Quantum Chemistry, Chemistry 615 Chemical Thermodynamics, Chemistry 616 Chemical Kinetics.

Additional graduate courses to be taken will be determined in consultation with the faculty research advisor and the faculty of the Department of Chemistry. Graduate students may elect to take courses offered on the MCV Campus. Among the courses taught at MCV of interest to chemistry students are organic pharmaceutical chemistry, stereochemistry, heterocyclic chemistry, general biochemistry, circuit design and analysis, and X-ray crystallography. The School of Basic Sciences section of this bulletin should be consulted for other courses. Students are expected to participate in the department's seminar program each semester and present at least two formal talks in the seminar program. An acceptable research thesis and a final oral examination on the thesis are required. Full-time students should complete these degree requirements in two years.

Students seeking the Ph.D. degree must demonstrate competency in analytical, inorganic, organic, and physical chemistry.

The students who do exceptionally well in the proficiency examinations may, by decision of the chemistry faculty, be considered to have demonstrated the necessary competency. The proficiency examinations may be repeated and must be completed by the end of the second year of study.

Students preparing for the Ph.D. degree must have a minimum of 24 credits in graduate courses not including credit for seminar or research. The credits must include a course selected from each of the four areas listed above. Other graduate courses to be taken will be determined in consultation with the faculty research advisor and the faculty of the Department of Chemistry. Students are expected to participate in the department's seminar program and present at least three formal talks in the seminar program. In addition to course work and seminar, the Ph.D. requires a minimum of 30 credit hours in CHE 690 (research), and the total of all credits must be at least 60. A reading knowledge of an approved foreign language is also required.

The student is required to complete a written and oral comprehensive examination in his major field to become a Ph.D. candidate. The oral comprehensive examination includes the presentation and defense of the proposed dissertation research. The student must conduct a substantial original investigation under the supervision of his advisor and prepare a dissertation reporting the results of the research and analyzing its significance in relation to existing scientific knowledge. An oral defense of the dissertation will be held. Full-time students should complete the degree requirements in about four years.

Additional information and a more detailed description of the graduate program may be obtained from the Department of Chemistry.

GRADUATE COURSES IN CHEMISTRY (CHE)

504 Advanced Organic Chemistry I. Semester course; 3 lecture hours. 3 credits. An integrated study of certain free radical and ionic reaction mechanisms with emphasis on electronic effects and stereochemical consequences of these reactions. Classical vs. nonclassical carbonium ions and the Hammett equation are discussed.

510 Atomic and Molecular Structure. Semester course; 3 lecture hours. 3 credits. Qualitative and quantum mechanical treatment of atoms and molecules. Approximate and semiempirical calculations as well as experimental methods for the determination of molecular structure are discussed.

532 Advanced Analytical Chemistry. Semester course; 3 lecture hours. 3 credits. Theories and principles involved in analytical techniques such as spectrometry, electrochemical analysis, titrations in nonaqueous solvents, and chromatography.

595 Topics in Chemistry. Semester course; variable credit, 1-6 credits per semester; maximum total of nine credits for all topics courses. An in-depth study of a selected topic in chemistry. See Schedule of Classes for specific topic(s) and prerequisites.

604 Advanced Organic Chemistry II. Semester course; 3 lecture hours. 3 credits. An integrated study of the mechanism and stereochemistry of organic reactions and their application to organic synthesis. Emphasis is placed on addition and condensation reactions, carbanions, carbenes, and other reactive intermediates.

605 Physical Organic Chemistry. Semester course; 3 lecture hours. 3 credits. The theory and application of physical methods in the study of the behavior of organic compounds. Topics covered include homogeneous kinetics, equilibria, acid-base catalysis, and the quantitative correlation of structure and reactivity as they apply to the understanding of the mechanisms of organic reactions.

606 Methods of Structural Determination in Organic Chemistry. Semester course; 3 lecture hours. 3 credits. Lecture and laboratory problems illustrating the application of instrumental analytical techniques for the solving of organic structural problems.

607 Organic Synthesis of Natural Products. Semester course; 3 lecture hours. 3 credits. Prerequisite: CHE 604 or permission of instructor. A study of the criteria for, applications of reactions to, and design of, complex organic syntheses, including functional group protection and control of stereochemistry.

610 Applied Quantum Chemistry. Semester course; 3 lecture hours. 3 credits. Prerequisite: CHE 410 or 510 (Atomic and Molecular Structure). Quantum mechanics applied to chemical problems in UV, IR, and NMR spectroscopy and the electronic structures of atoms and molecules; development of the selfconsistent field equations.

611 Molecular Spectroscopy. Semester course; 3 lecture hours. 3 credits. Prerequisite: CHE 510. This course treats the interaction of radiation and molecules; the rotation, vibration, and electronic motion of molecules; molecular spectra and recent developments in laser spectroscopy.

615 Chemical Thermodynamics. Semester course; 3 lecture hours. 3 credits. The study of the laws of thermodynamics and their application to pure phases, solutions, and changes in state.

616 Chemical Kinetics. Semester course; 3 lecture hours.

3 credits. A study of the rates and mechanisms of chemical reactions, reaction rate theory, kinetic theory of gases, and theories of catalysis.

620 Advanced Inorganic Chemistry I. Semester course; 3 lecture hours; 3 credits. The application of modern physical techniques for the determination of the symmetry, molecular structure, bonding and reaction mechanisms of inorganic compounds.

621 Advanced Inorganic Chemistry II. Semester course; 3 lecture hours. 3 credits. Prerequisite: CHE 620 or permission of instructor. A coordinated study of synthetic methods, stereochemistry, and reaction mechanisms, including catalysis of inorganic, organometallic, and bioinorganic compounds.

630 Electroanalytical Chemistry. Semester course; 3 lecture hours. 3 credits. Prerequisite: CHE 532 or permission of instructor. The theory, application, and instrumentation of current techniques in electroanalytical chemistry is presented.

650 Special Topics. Semester course; 1-4 credits. Prerequisite: approval of department chairman. Lecture, tutorial studies, and/or library assignments in selected areas of advanced study not available in other courses or as part of the research training. May be repeated for credit.

660 Chemistry Seminar. Semester course; 1 credit. In addition to reports that are presented by students, staff, and visiting lecturers, current problems and developments in chemistry are discussed. May be repeated for credit.

690 Research. Semester course; 1-12 credits. Research leading to the M.S. and Ph.D. degree. May be repeated for credit.

Department of English and Division of Teacher Education

For information on the master's program in the Department of English and the Division of Teacher Education see *Interdisciplinary and Cooperatively Offered Graduate Degrees* in the index.

Department of Mass Communications

FACULTY

Professors: Crutchfield (Chairman); Arnold; Turpin; White, D.M.

Assistant Professors: Deppa; Fair, C.A.

The Department of Mass Communications offers a program leading to a Master of Science degree in mass communications. The program offers candidates three tracks through which individualized programs may

be developed appropriate to these professional goals:

Track One: preparation for a career as a middle- or upper-level executive of one of the mass media.

Track Two: advanced preparation, or updating of proficiency, as a professional journalist in reporting and writing of urban affairs.

Track Three: preparation for teachers of scholastic journalism or for those who act as scholastic advisers and sponsors.

The program, with the cooperation of appropriate departments and schools within the university, includes interdisciplinary study in business management, the social sciences, and education. Students are encouraged to take course work in other appropriate areas that relate specifically to their interests and to the university's concern for social problems.

ADMISSION REQUIREMENTS

The program is open to graduates of colleges and universities accredited by the appropriate regional accrediting agency. Although the type of undergraduate degree is not critical to selection, each of the three tracks has requirements that must be satisfied through approved undergraduate curricula or the equivalent.

In addition to the general requirements for admission to graduate programs in the School of Arts and Sciences, the following requirements represent the minimum acceptable standards for admission:

1. A baccalaureate degree in an area appropriate to the mass communications degree program, with a grade point average that indicates the applicant's ability to pursue graduate work successfully.
2. Acceptable scores on the Graduate Record Examination.
3. Three recommendations from persons who are qualified to give information concerning the applicant's probable success in graduate school.
4. In the media management and the professional journalist tracks, at least one course in basic statistics. Applicants who do not meet this requirement may enroll in an undergraduate statistics course at VCU during the first semester.

5. In the media management and the professional journalist tracks, one year of economics is required. Applicants who do not meet this requirement may enroll in ECO 201-202 or 611.
6. At least three acceptable journalistic writing courses or MAC 501 and MAC 502 for admission to the professional track; one course in journalistic writing or MAC 501 for admission to the media management track. Evidence of professional competence may be substituted for these requirements.

Undergraduate courses designed to remove deficiencies (in categories 4, 5, and 6 above) will not be accepted for the master's degree.

An acceptable course in communications law is required for the media management and the professional journalist tracks, and a course in some aspect of media management is required for the management track. The law requirement may be fulfilled by enrollment in MAC 408 as an approved elective. Communications law will be included in several of the journalism education track courses. A candidate in the management track may fulfill the management requirement by enrollment in one of the department's management courses as an approved elective.

A letter detailing career goals and how the M.S. degree program in mass communications applies to those goals should accompany the application for admission.

In addition to these minimum acceptable standards for admission, other prerequisites may be required, depending on the background and goals of the individual candidate. Holders of non-journalism/mass communications baccalaureate degrees who are considering the program should contact the department's coordinator of graduate studies for additional information.

Provisional admission may be granted where deficiencies exist, in these areas:

1. Where an applicant does not have acceptable prerequisites. These should be completed early in the program, ideally before a candidate starts taking 600 level program courses. Except in rare cases, the prerequisites *must* be completed by the time the student has completed nine hours of graduate credit.

2. Where an applicant has marginal GRE scores. Provisional, admission status will be reviewed by the Admissions Committee after the student has completed nine hours of graduate work.

After 12 hours of graduate work, the departmental Graduate Program Committee will consider admitting the student to candidacy, based on his/her performance. If a student is not approved for candidacy, the student may; (1) appeal to the Graduate Program Committee; (2) be advised of what further requirements could lead to acceptance; or (3) be dropped from the program. The department will request the dean to approve admission to candidacy or to support dropping the student.

DEGREE REQUIREMENTS

The master's program requires a minimum of 33 to 35 hours beyond the baccalaureate degree. The journalism education track is non-thesis. Candidates for this track would be required to complete a minimum of 20 credit hours in mass communications and 15 hours in education. This ratio would be altered for candidates who have an undergraduate degree or professional experience in journalism-mass communications.

Completion of a formal thesis will be an option in the media management and professional journalist tracks. Students in these tracks will be required to take 27 hours of course work in either option, including a minimum of 15 in mass communications and 12 in approved electives. The remaining six hours will be taken under this arrangement:

1. In the thesis option, a three-hour approved graduate elective course is required, plus a three-hour thesis course. Candidates in this option will be tested covering course work and thesis defense.

2. In the non-thesis option, two additional three-hour approved graduate elective courses are required, followed by comprehensive written and oral examinations. Electives in any of the three tracks will be approved in the interest of the candidates' individual needs.

For all candidates, a three-member examination/thesis committee will be formed, usually in the first full-time semester or

equivalent, with a chairman and one member from the Department of Mass Communications and a third member from another appropriate department or school within the university. The committee chairman, in collaboration with the other members, will be responsible for advising students and will arrange for the written and oral examinations.

A maximum of six semester hours of graduate course work may be transferred, upon recommendation of the graduate committee.

Candidates are expected to indicate, at the beginning of their first semester either full-time or part-time, the track they intend to pursue.

Candidates in either the media management or professional journalist track must take the three program core requirements, usually in this order:

- MAC 611 Research Methods
- MAC 612 Mass Communications Theory
- MAC 613 Mass Media and Society

For the media management track, the candidate must also take:

- MAC 617 Media Analysis
- MAC 618 Economics of the Media
- BUS 607 Financial Accounting
- BUS 620 Financial Concepts of Management
- BUS 633 Issues in Labor Relations
- BUS 640 Management Theory and Practice

For the professional track, the candidate must take, in addition to the three core courses, these mass communications courses:

- MAC 614 Media-Governmental Relations
- MAC 615 Urban Affairs Reporting

Candidates in the journalism education track must take these mass communications courses, unless some courses have been waived because of undergraduate degree or professional experience:

- MAC 501 Journalistic Writing
- MAC 502 Editing the News
- MAC 519 Journalism in the Schools
- MAC 603 High School Yearbooks
- MAC 612 Mass Communications Theory
- MAC 613 Mass Media and Society
- MAC 604 Broadcasting in High Schools,

may be taken as an elective.

Prospective high school teachers would

have to take School of Education foundation courses, to be determined. Experienced teachers would take education courses from the following list:

- EDU 534 Photography in Instruction
- EDU 615 Curriculum Development
- ENG-EDU 636 Teaching of Communication
- ENG-EDU 643 Teaching Basic Writing Skills
- EDU 660 Research Methods in Education
- EDU 681 Investigations and Trends in Teaching
- EDU 700 Externship

A joint curriculum Advisory Committee established by the Department of Mass Communications and the Division of Teacher Education of the School of Education maintains continuous communication between the two units on advising matters.

GRADUATE COURSES IN MASS COMMUNICATIONS (MAC)

501 Journalistic Writing Semester course; 2 lecture and 4 laboratory hours. 4 credits. Prerequisite: departmental permission. A concentrated course in journalistic writing, including news, features, sports, columns, and editorials. Typing skill required. See Department of Mass Communications for details.

502 Editing the News. Semester course; 2 lecture and 4 laboratory hours. 4 credits. Prerequisite: departmental permission. A concentrated course in editing for journalistic publications. Course will include copy editing, headline writing, publications page makeup and design, and editorial decision-making.

519 Journalism in the Schools. Semester course; 3 lecture hours. 3 credits. Study of school newspapers, magazines, and yearbooks; problems relating to staff selection, content of publications, copy layout, advertising, and business phases.

523 Advanced Public Relations. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAC 323 or permission of instructor. Application of public relations theory and methods to case studies; specialized writing for the various media. Case analyses will include budgeting, researching issues and audiences, measuring survey results, and conducting campaigns and special events.

603 Scholastic Yearbooks. Semester course; 3 lecture hours. 3 credits. Prerequisite: departmental permission. The organization, staffing, content, illustration use, production techniques, typography, style, theme, advertising and business functions of a scholastic yearbook. The role of the yearbook adviser will be emphasized.

604 Broadcasting in High Schools. Semester course; 3 lecture hours. 3 credits. Prerequisite: departmental per-

mission. An examination of radio and television as student media in high schools. Broadcasting principles, directing and producing high school broadcast programs, using basic broadcast equipment. Emphasis is upon the role of the adviser-teacher.

611 Research Methods in Mass Communications. Semester course; 3 lecture hours. 3 credits. Fundamentals of mass communications research techniques (content analysis, survey research, experimental design, historiography), including an overview of computer applications, statistics, theory development, and trends in the published literature.

612 Mass Communications Theory. Semester course; 3 seminar hours. 3 credits. Nature, function, and application of mass communications theory; structure, content, and effects of media systems; social and technological events accounted for by a generalized theory of mass communications.

613 Mass Media and Society. Semester course; 3 seminar hours. 3 credits. A study of the mass media of the United States, with special attention to their historical development and their impact on other institutions. Consideration of ethical and legal aspects of the media, and problems such as access, control, and accountability.

614 Media-Governmental Relations. Semester course; 3 seminar hours. 3 credits. Study of the interaction between the media and the government, and the role of the press in the governmental process as a disseminator, opinion-maker, and adversary.

615 Urban Affairs Reporting. Semester course; 3 seminar hours. 3 credits. In-depth examination of current urban problems such as air pollution, transportation, inner-city redevelopment, ghetto life, ecology, and metropolitan government.

Department of Mathematical Sciences

FACULTY

Professors: Glynn; Minton (Institute of Statistics); Raychowdhury
Associate Professors: Allan; Bauer; Berglund; Deveney; Farley; Haver (Chairman); Henry; (Sociology and Anthropology); Lohr (Education); Morris; Rabung; Schedler; Wood
Assistant Professors: Ames; Ha; Jacqmin; Kelley; Koutrouvelis; Mandeli; Schmeelk; Scott; Seidel; Tucker

The Department of Mathematical Sciences offers a program leading to a Master of Science degree with several possible areas of specialization including: applied mathematics, computer science, mathematics, statistics, statistical computing, applied computational mathematics, discrete structures, and others.

The program offers maximum flexibility

by allowing each student, in consultation with his or her graduate committee, to design a course of study which will best develop competence in those areas most relevant to his/her scholarly and professional objectives. This program consists of a minimum of 30 semester credits of which at least half must be at the 600 level. Each student will select either the thesis or non-thesis option. The student who elects the non-thesis option must pass a written examination and may be asked to take an oral examination.

In addition to the general requirements for admission to graduate programs in the School of Arts and Sciences, the following are requirements of the Department of Mathematical Sciences for admission:

1. Thirty semester credits in undergraduate mathematical sciences or related areas of which at least 18 semester credits must represent upper-level courses.
2. Three letters of recommendation pertaining to the student's potential ability as a graduate student in mathematical sciences.
3. Graduate Record Examination scores, including those of the advanced examination in one of the mathematical sciences.

Provisional admission may be granted when deficiencies exist. These deficiencies must be removed by the end of the first year of residence, or its part-time equivalent, at which time the student's application will be re-examined. Courses which are remedial or designed to remove deficiencies will not be accepted for credit toward the fulfillment of the course requirements for the master's degree.

PROGRAM LEADING TO THE MASTER OF SCIENCE DEGREE IN MATHEMATICAL SCIENCES

Non-Thesis Option

| | Credits |
|--|---------|
| Mathematical Sciences | 21 |
| (Including both semesters of a 600 level sequence) | |
| Mathematical Sciences of Allied Field ¹ | 6-9 |
| Seminar Credits | 2-4 |
| Specialized Study Credits ¹ | 0-2 |

| Thesis Option | |
|--|-----|
| Mathematical Sciences | 18 |
| (Including both semesters of a 600-level sequence) | |
| Mathematical Sciences or Allied Field ² | 6—9 |
| Thesis Credits | 3—6 |
| Seminar Credits ³ | 1—3 |
| Specialized Study Credits ³ | 0—2 |
| | 30 |

Other Postbaccalaureate Programs in Mathematical Sciences. For students who hold bachelor's degrees in appropriate areas, the Department of Mathematical Sciences offers the following alternative postbaccalaureate degree programs.

Master of Education in Mathematics Education. For information about the graduate program in mathematics education, see the School of Education.

Mathematical Sciences Certificate in Computer Science. The Department of Mathematical Sciences offers a certification program in computer science for students who have received bachelor's degrees in other areas and wish to undertake a study of computer science. This program, while placing major concentration on computer science, also requires the student to gain exposure to other mathematical sciences. Students who gain certification through the program are well suited for many professional opportunities available in the scientific community and with government agencies. Further, the certification process is designed to allow interested students to prepare for graduate study in computer science.

To gain certification through this program the student is required to earn a minimum of 30 credits from courses at the 200 level or higher in mathematical sciences or related areas (as approved by the department). Credits toward certification can be transferred from work done before or after receiving the bachelor's degree. Included among the 30 credits must be the following:

- A. at least 18 credits from courses in mathematical sciences at the 300 level

²To be approved by the department's Graduate Affairs Committee.

³The student who chooses the non-thesis option may receive a *maximum* total of four credits for 690 Seminar and 689 Specialized Study. The student who chooses the thesis option usually will not take specialized study, but is not prohibited from doing so. In the thesis option a total of seven credits for thesis, seminar, and specialized study is the maximum credit permitted.

- or higher earned at VCU after the candidate has received a bachelor's degree;
- B. a total of at least 15 credits in computer science courses at the 300 level or higher with at least 6 of these credits at the 400 level;
- C. at least 9 credits in approved electives in mathematical sciences other than computer science;
- D. at *most* 9 credits in approved courses at the 300 level or higher from other departments outside the mathematical sciences.

Upon successfully completing all courses in the program within a five-year period with a grade of "C" or better, and having maintained a grade point average of 2.5 or better in the program, the student will be awarded the Mathematical Sciences Certificate in Computer Science. Successful completion of a certificate program does not guarantee admission to the master's degree program in mathematical sciences.

Students seeking to enter the certificate program should contact the chairman of the Department of Mathematical Sciences for information on admission procedures.

GRADUATE COURSES IN MATHEMATICS (MAT)

505 Modern Geometry. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 307. Co-requisite: MAT 310. Topics in Euclidean, projective, and non-Euclidean geometries from a modern viewpoint.

507-508 Analysis I, II. Continuous course; 3 lecture hours. 3-3 credits. Prerequisites: MAT 211, 307, and 310 or permission of instructor. Theoretical aspects of calculus, sequences, limits, continuity, infinite series, series of functions, integration, differential geometry.

509-510 General Topology I, II. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: MAT 211. Foundations and fundamental concepts of point-set topology. Topological spaces, convergence, connected sets, compactness, product spaces, quotient spaces, function spaces, separation properties, metrization theorems, mappings, compactification.

511 Applied Linear Algebra. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 301 and 310. The algebra of matrices, the theory of finite dimensional vector spaces, and the basic results concerning eigenvectors and eigenvalues, with particular attention to applications.

512 Applied Complex Analysis. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 507 or 517. The algebra and geometry of complex number, analytic functions, integration, series, contour integration,

analytic continuation, conformal mapping, with particular attention to applications.

515 Numerical Analysis I. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 301 and CSC 201. Solution of equations, interpolation and approximations, numerical differentiation and integration, and numerical solution of initial value problems in ordinary differential equations. Selected algorithms will be programmed for solution on computers.

516 Numerical Analysis II. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 310 and 515. The solution of linear systems by direct and iterative methods, matrix inversion, the evaluation of determinants, and the calculation of eigenvalues and eigenvectors of matrices. Application to boundary value problems in ordinary differential equations. Introduction to the numerical solution of partial differential equations. Selected algorithms will be programmed for solution on computers.

517-518 Methods of Applied Mathematics. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: MAT 301. Vector analysis, matrices, complex analysis, special functions, Legendre and Hermite polynomials. Fourier series, Laplace transforms, integral equation, partial differential equations, boundary-value, and initial-value problems.

520 Game Theory and Linear Programming. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 310. The mathematical basis of game theory and linear programming. Matrix games, linear inequalities and convexity, the minimax theorems in linear programming, computational methods, and applications.

521 Introduction to Algebraic Number Theory. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 401. Introduction to algebraic numbers and algebraic number fields with emphasis on quadratic and cyclotomic fields. Units, primes, unique factorization.

525 Introduction to Combinatorial Mathematics. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 211, 310, or permission of instructor. Introduction to the problems and methods of solution in the enumeration, existence, and construction of some discrete mathematical structures. Discussion of generating functions, recurrence relations, Ramsey's theorem, matching theory, combinatorial designs, latin squares, and linear coding theory.

530 The Development of Modern Mathematics. Semester course; 3 lecture hours. 3 credits. Prerequisite: 17 credits at the 200 level or above in the mathematical sciences. A descriptive survey of modern mathematics: its development, rationale, and influence. A concise review of the history of mathematics will be followed by the study of several major ideas relevant to present-day mathematics. Subjects will vary, but will usually include the following: the advent of pure abstraction; difficulties in the logical foundations of mathematics; the impact of mathematics on 20th century science; and the computer revolution.

601-602 Abstract Algebra I, II. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: MAT 401. A study of algebraic structures (including groups, rings, and fields), Galois theory, homomorphisms, subalgebras, direct products, direct decompositions, subdirect decompositions, free algebras, varieties of algebras.

603-604 Advanced Probability Theory. Continuous course; 3 lecture hours. 3-3 credits. Prerequisites: MAT 508 and 503 or STA 513 or BIS 545. A measure-theoretic approach to the theory of probability. Borel sets, probability measures, and random variables. Special topics include characteristic functions, modes of convergence, and elements of stochastic processes.

607-608 Real Analysis I, II. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: MAT 508. The real number system, Lebesgue measure, functions of bounded variation, differentiation and integration, the L spaces, introduction to Banach and Hilbert spaces, general measure theory, and the Lebesgue-Stieltjes integral.

609 Topics in Topology. Semester course; 3 lecture hours. 3 credits*. Prerequisites: MAT 509-510 and permission of instructor. Special topics in topology selected from such subjects as advanced general topology, algebraic topology, topological algebra, and differential topology.

611-612 Complex Analysis I, II. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: MAT 508. Elementary functions, analyticity, Cauchy's theorem and integral formula, Taylor and Laurent series, poles, residues, analytic continuation, Riemann surfaces, periodic functions, conformal mapping, and applications.

617-618 Applied Mathematics I, II. Continuous course; 3 lecture hours. 3-3 credits. Prerequisites: MAT 517 and 518. Partial differential equations; equations of Helmholtz, Laplace, and Poisson; the diffusion equation, integral transforms, Green's function methods, calculus of variation, eigenvalues and eigenfunctions by variational methods, integral equations, Fredholm and Volterra equations, and Fredholm and Hilbert-Schmidt theories.

619 Operational Methods. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 508. Transform methods applied to existence theory, explicit solutions to problems of mathematical physics, distributions of Schwartz and Gelfand-Silov; kernel theorems of Schwartz, mathematical framework of quantum field theory.

620 Theory of Partial Differential Equations. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 301 and 508. Classification of partial differential equations; elliptic, hyperbolic, and parabolic equations; potential theory, techniques of solving various partial differential equations; applications to electromagnetism and solid mechanics.

621 Boundary Value Problems. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 517-518. Survey of boundary value problems, approximate analytic solutions such as Galerkin's method and the

*May be taken twice for credit. Concurrent sections may be offered.

90 School of Arts and Sciences

Ritz method; application to heat transfer, fluid mechanics, and potential theory.

631 Topics in Algebra. semester course; 3 lecture hours. 3 credits*. Prerequisites: MAT 601, 602, or permission of instructor. A detailed study of one or more areas of modern algebra. Possible areas include: finite groups, infinite abelian groups, semigroups, non-commutative rings, and transcendental field extensions.

689 Specialized Study. Semester course; 1 credit. Prerequisite: graduate standing. Supervised individual research and study in an area not covered in the present curriculum or in one which significantly extends present coverage. Research culminates with an oral presentation to the department and submission of a written version of this presentation to the supervising faculty member. May be taken more than once for credit.

690 Seminar. Semester course; 1 credit. Prerequisite: graduate standing. Discussions of topics in the mathematical sciences as stimulated by independent reading in selected areas and at least one oral presentation by each student. May be taken more than once for credit.

691-692 Research and Thesis. Continuous course; 1-3 credits per course. Credits and hours to be arranged. Prerequisite: graduate standing. Independent research culminating in the writing of the required thesis as described.

GRADUATE COURSES IN COMPUTER SCIENCE (CSC)

500 Computer Methods for Research. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: one year of college mathematics. Introduction to programming in several computer languages including FORTRAN IV. Survey of applications packages such as SAS and SPSS. Each student's assignment will include applications programs in his major field. Not applicable toward M.S. degree in mathematical sciences.

501 Data Structures. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 202, 301, and 311. Basic concepts of data, list structures, strings, and arrays. Representation of trees and graphs. Storage systems and methods of storage allocation and collection. Multi-linked structures. Symbol tables, search techniques, and sorting techniques. Formal specification of data structures.

503 Programming Languages. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 202, 301, and 311. Formal definition of programming languages including specification of syntax and semantics. Precedence, infix, prefix, and postfix notation. Global properties of algorithmic languages. Sub-routines, co-routines, and tasks. List processing, string manipulation, data description, and simulation languages. Run-time representation of program and data structures.

504 Compiler Construction. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 501 and 503. Review of program language structures, translation, loading, execution, and storage allocation. Compilation of simple expressions and statements. Organization of a compiler. Use of compiler writing languages and bootstrapping.

505 Computer Organization. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 311 and 312. Basic digital circuits. Boolean algebra and combinational logic, data representation and transfer, and digital arithmetic. Digital storage and accessing, control function, input-output facilities, system organization, and reliability. Description and simulation techniques. Features needed for multiprogramming, multiprocessing, and real time systems. Other advanced topics and alternate organizations.

511 Computer Graphics. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 302 or 401, or permission of instructor. Mathematical techniques for picture development and transformation, curve and surface approximation and projections, graphical languages and data structures and their implementation, graphical systems (hardware and software).

554 Applications of Computers in the Teaching of Mathematics. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: a college calculus course or permission of instructor. Introduction to computers and programming using the language, BASIC. Applications of the computer in algebra, geometry, trigonometry, statistics, and calculus.

601 Systems Programming. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 501 and 505. A study of concepts and techniques of systems programming. Hardware concepts and technologies. I/O programming and interrupt processing.

602 Operating Systems. Semester course; 3 lecture hours. 3 credits. Prerequisite: CSC 601. A study of modern operating systems. Resource management including: processor management, memory management, device management, and information management. Multiprogramming, multiprocessing, timesharing, real time, and related concepts. System performance evaluation. Security.

615 Topics in Numerical Analysis. Semester course; 3 lecture hours. 3 credits*. Prerequisites: MAT 515-516. CSC 201, and permission of instructor. Special topics in computer methods for numerical analysis selected from such subjects as analysis of numerical methods for solving ordinary differential equations; elliptic, hyperbolic, and parabolic partial differential equations; solutions of large linear systems by iterative methods.

621 Computer Linguistics and Automata. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 301 and either CSC 504 or ENG 549 or permission of instructor. Languages and their representation, grammars, finite automata, turing machines, and operations on languages.

649 Topics in Computer Science. Semester course; 3 lecture hours. 3 credits. Prerequisites: at least one graduate level computer science course pertaining to the topic area, and permission of instructor. Selected topics in computer science from such areas as data base management, communications, advanced computer architecture, analysis of algorithms, program correctness, computational complexity. May be taken more than once for credit.

GRADUATE COURSES IN STATISTICS (STA)

503 Introduction to Stochastic Processes. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 307 and 309. A continuation of topics given in MAT 309. An elementary introduction to stochastic processes and their applications, including Markov chains and Poisson processes.

513-514 Mathematical Statistics. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: MAT 307. Probability, discrete and continuous distributions, moment generating functions, limit theorems, estimation, decision theory and testing hypotheses, relationships in a set of random variables, linear models, and design.

523 Nonparametric Statistical Methods. Semester course; 3 lecture hours. 3 credits. Prerequisites: any two semesters of statistics and one semester of calculus. An introduction to the concepts and methods of regression analysis, including simple linear regression and correlation, multiple regression and correlation. Application of the multiple regression model to the analysis of variance.

543-544 Statistical Methods. Continuous course; 2 lecture and 1 laboratory hour. 3-3 credits. Prerequisites: any two semesters of statistics or permission of instructor. Statistical methods including analysis of variance, regression, correlation, and distribution free methods. Includes use of statistical packages.

613-614 Stochastic Processes. Continuous course; 3 lecture hours. 3-3 credits. Prerequisites: STA 503 and MAT 508, STA 514 or BIS 545. Introduction to the theory and applications of stochastic processes. Random walks, Markov processes, queueing theory, renewal theory, birth-death and diffusion processes. Time series, spectral analysis, filter, auto correlation. (Offered in conjunction with the biostatistics department.)

623 Discrete Multivariate Analysis. Semester course; 3 lecture hours. 3 credits. Prerequisite: STA 543, BIS 511, or permission of instructor. Methods for the analysis of contingency tables. Emphasis on social and biomedical applications of the general log-linear model.

643 Topics in Statistics. Semester course; 1-3 lecture hours. 1-3 credits. Prerequisite: permission of instructor. A detailed study of selected topics in statistics. May be repeated for a maximum of six credits.

Department of Psychology

FACULTY

Professors: Bailey; Erickson; Hawkes; Kiesler; Ray; Strong; Thomas; Tipton

Emeritus Professor: Groman

Associate Professors: Auerbach; Hamm; Hartnett; Hornbuckle; Kallman; Leahey; Mahoney; McCullough; Porter; Spencer

Assistant Professors: Cooke; Farrell; Forsyth; Hooke; Huebner; McGovern; Myers; Olsho; Parham (Gerontology); Stolberg; Worthington

Associate Clinical Professors: Finch; Resnick

Assistant Clinical Professors: Biske; Browne; Crowe; Fagan; Hirschman; Johnson; Keeney; Kitkausk; Lira; Macurik; Master; McLaughlin; Montgomery; Morgan; Moss; Norwood; Peck; Peed; Robinson; Shenoy; Sitarz; Taylor

The Department of Psychology offers instruction in clinical, counseling, and general psychology leading to the Master of Science and Doctor of Philosophy degrees. The doctoral programs in clinical and counseling psychology have been fully accredited by the American Psychological Association.

The clinical psychology program prepares the student for research and service in the clinical area. The counseling psychology program prepares the student for research and service in the counseling area. A student in either clinical or counseling psychology may elect courses in education as well as psychology that will make it possible for him to become certified as a school psychologist.

The program in general psychology prepares the student for either basic or applied research in physiological, developmental, and social psychology.

All three doctoral programs provide opportunities for selected students who are interested in college teaching to obtain special training and experience in that activity. All three master's programs prepare students for additional graduate study as well as for work in related areas. The Psychological Services Center, operated by the department, is located on campus and serves as a clinical practicum facility.

An outstanding collection of current journals and books in psychology is housed in the James Branch Cabell Library on the Academic Campus and in the Tompkins-McCaw Library on the MCV Campus.

Teaching assistantships are available. The amount of the stipend is dependent upon the amount of service required.

All students are required to complete the core curriculum of 13 credits, which includes a course in either the biological basis of behavior or sensation and perception; a course in either learning or cognitive processes; and courses in applied statistics, experimental design, and professional problems.

Receipt of two grades of "C" or lower in courses, or grades of "C" or lower in more than six credits of psychology courses, constitutes automatic dismissal of a student

from the program. Additional courses will be chosen in consultation with an advisor appropriate to the student's field of interest.

The candidate must complete all requirements for a degree within a seven-year period from the date of his admission to the program.

Students are required to pass a comprehensive examination at the master's level and a preliminary examination at the doctoral level.

Admission requirements include:

1. Graduation with a bachelor's degree from an accredited college or university, but not necessarily with a major in psychology.
2. Eighteen semester hours of undergraduate course work in psychology is the minimum but *not* the optimal number of hours for an applicant to be considered for admission. Included must be each of the following courses: general psychology, applied statistics, and experimental psychology. Exceptionally well qualified applicants with less than a major in psychology, or applicants whose undergraduate work is considered outdated by the admissions committee, may be advised to complete some additional undergraduate courses at the beginning of their graduate study program.
3. An undergraduate record indicating superior academic potential.
4. Satisfactory performance on the Graduate Record Examination, including the special psychology examination.
5. Three letters of recommendation from previous instructors.
6. A personal interview may be required at the discretion of the department.

Application forms for admission to graduate study, application forms for assistantships, and brochures describing the special programs of interest as noted above are available on request from the department. Applications should be filed early to permit review and to insure consideration.

The number of students who can be admitted is limited by the facilities and staff available. All students will be notified of the decision made. In the areas of clinical and counseling psychology, where the number of applicants is many times greater than the

number that can be admitted, the screening process may begin as early as January 1. First offers of admission are made on April 1 and, by June 1, after other offers to alternates have been made and final acceptances by students have been received, admissions to clinical and counseling psychology may be closed. Clinical and counseling psychology applications that are not completed by March 1 may not reach the department in time to be considered. Because most of the openings must be reserved for beginning graduate students, relatively few applicants who already possess master's degrees can be admitted. In other areas of psychology where the number of applicants is not as large and the number of openings is larger, applications may be completed and processed up to July 1 for regular registration, but after that date for special registration only.

Transfer credits for graduate work at other institutions will be evaluated after the completion of nine semester hours in the department.

The residence requirement for the master's degree is 18 hours, nine in each of two consecutive semesters. Completion of the program usually requires three or four semesters.

The student is obligated to request, in writing from his program committee, continuation of study beyond the master's degree. Application from a student for continuation beyond the master's level will be evaluated by the appropriate program committee after completion of all requirements for the master's degree. The recommendation of the program committee will then be reviewed for the department by the graduate committee. The faculty will be notified of the decision and given the opportunity to review.

The residence requirement for the doctoral degree is an additional 18 hours, nine in each of two consecutive semesters following completion of the master's degree. Completion of the entire program usually requires three to four years in the general program, and four to five years in the clinical or counseling programs, including the internship year.

With the consent of his program committee, a doctoral student may design a minor

consisting of courses in departments other than psychology or courses in an area of psychology other than his major.

Practicum and internships will be required whenever these additional skills are consistent with the major emphasis of the student's program. Practicum credit will vary depending on the program. Internship will be without credit.

Before undertaking his dissertation a doctoral candidate must demonstrate either a reading knowledge in one foreign language or proficiency in computer programming. Credits for courses taken to prepare for or to satisfy the language or programming requirement do not count as course credits toward the degree.

All Master of Science candidates are required to complete a thesis and to defend it successfully in an oral examination. A dissertation requiring the planning, completion, and defense of an original research project is an integral part of the doctoral program.

The minimal requirements specified for a graduate degree may not meet licensing standards in various states. Information on current Virginia laws regulating the practice of psychology may be obtained from the Department of Psychology.

GRADUATE COURSES IN PSYCHOLOGY (PSY)

501 Physiological Psychology. Semester course; 3 lecture hours. 3 credits. Data from the fields of anatomy and physiology are presented and their implications for psychology are discussed. Structure and function of the central nervous system, the internal environment, reflexes, emotional response, and the physiological viewpoint are studied.

503 Introduction to Psycholinguistics. Semester course; 3 lecture hours. 3 credits. Methodology and theory in studying human language behavior are introduced. Topics include the structure of communication, using language, language acquisition, and the role of language in thinking and remembering. The relation of language to other ways of communicating is discussed.

506 Perception. Semester course; 3 lecture hours. 3 credits. Perception of information from sensory systems with concentration on vision and hearing. Research and theories on how we learn and judge color, form, movement, depth, and integrate these in object identification.

507 Abnormal Psychology. Semester course; 3 lecture hours. 3 credits. The development of personality is discussed with emphasis on factors leading to maladjustment. Lectures and readings cover the symptom groups of emotional disorders of both psychological

and organic origin. Methods of assessing and treating these disorders are surveyed.

508 Nonverbal Communication in Human Interaction. Semester course; 3 lecture hours. 3 credits. Theory and research in nonverbal communication including facial expressions, body movements, postures, interpersonal space, voice qualities, etc. Importance of nonverbal messages in expressing emotion and in conducting interpersonal transactions, with applications to abnormal behavior and psychotherapy.

509 Personality. Semester course; 3 lecture hours. 3 credits. The study of the various approaches to understanding human behavior in terms of personality theory. Various theories will be examined for commonality and uniqueness in assumptions, structure, dynamics, and development of personality.

510 Principles of Learning. Semester course; 3 lecture hours. 3 credits. The major theories of learning are reviewed in terms of their usefulness in the light of current research findings. The application to practical problems of laboratory results is discussed.

511 Survey of Psychological Tests. Semester course; 3 lecture hours. 3 credits. Prerequisite: PSY 214. Concepts in psychological measurement and a survey of commonly used group tests; testing procedures and rationale underlying these tests; tests of intelligence, aptitude, achievement, interest, and personality critically examined, procedures described for selecting and evaluating specific group tests in these areas.

513 Psychology of the Arts and Artists. Semester course; 3 lecture hours. 3 credits. The meaning and function of the arts as a social and psychological phenomena. The personality of the artist and his sociocultural role. Psychological processes and experiences in producing the works of art. Emphasis on the graphic and plastic arts.

515 Animal Behavior. Semester course; 3 lecture hours. 3 credits. Review of methodology and data from ethology and comparative psychology. The course explores the effects of learning, motivation, social, and developmental factors on the behavior of organisms ranging from one-celled animals to primates.

524 Occupational Information and Career Development. Semester course; 3 lecture hours. 3 credits. Survey of current research. Methods of obtaining occupational information and uses of that information in counseling.

526 Child Psychopathology. Semester course; 3 lecture hours. 3 credits. Deviations from normal personality and emotional development. Major theoretical approaches to treatment of childhood disorders.

527 Psychology of the Handicapped. Semester course; 3 lecture hours. 3 credits. A survey of the handicapped person, with particular emphasis on the mentally retarded, crippled, cerebral palsied, and hard-of-hearing; extent and nature of the handicap; psychological and emotional aspects; education, treatment, and rehabilitation.

530 Engineering Psychology. Semester course; 3 lecture hours. 3 credits. Theory and research related to man-machine-environment systems, their design and effectiveness. Human sensory processes as they relate to in-

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formation input, human information processing, and human output activities. Application of knowledge in these areas to the design and use of mechanical systems and to man-machine system compatibility.

531 Industrial Safety. Semester course; 3 lecture hours. 3 credits. A comprehensive study of the principles and methods for the control and prevention of accidents adapted to the need of business and industry.

540 Principles of Vocational Counseling. Semester course; 3 lecture hours. 3 credits. The nature of the counseling interview. The relationship of aptitudes, abilities, interests, personality, and training to vocational behavior. The role of psychometrics in vocational counseling.

541 Selection and Classification. Semester course; 3 lecture hours. 3 credits. Study of principles of theory of psychological tests used in industry for selection and classification such as interviews and personal history.

550 Psychology of the Mentally Retarded. Semester course; 3 lecture hours. 3 credits. An analysis of the mentally retarded with special emphasis on the causes of retardation, psychological evaluation, diagnosis, and classification as well as training, education, and counseling with retardates. Also included are the problems of institutionalization and the training of workers in the field.

551 History and Systems of Psychology. Semester course; 3 lecture hours. 3 credits. The history of psychological ideas and theories emphasizing the origin and interrelationships of major view points and systems from ancient Greece to the present.

601 Behavior Modifications. Semester course; 3 lecture hours. 3 credits. Prerequisites: graduate standing in psychology and permission of instructor. Group and individual approaches in these general areas will be emphasized: observational techniques; counterconditioning and extinction procedures; techniques of positive and negative control; self-control procedures; use of modeling and roleplaying at change techniques; behavioral feedback and cueing procedures.

602/Gerontology 602 Psychology of Aging. Semester course; 3 seminar hours. 3 credits. Prerequisite: permission of instructor. Psychological adjustment in old age; special emphasis on personality, cognitive, and emotional development; life-crises associated with the aging process.

603 Developmental Processes. Semester course; 3 lecture hours. 3 credits. Cognitive, social, personality, and behavioral development across the life span is considered, with special attention to theories of development.

604 Social Psychology of Business and Industry. Semester course; 3 lecture hours. 3 credits. The theme is the influence of organizational structure on behavior. Topics will include motivation, attitudes, job satisfaction, morale, leadership, and supervision.

605 Social Development. Semester course; 3 lecture-seminar hours. 3 credits. Prerequisite: PSY 603 or permission of instructor. The development of social relations, focusing primarily on infancy and childhood, but

also considering adulthood and aging. Attachment, parent-child interaction, peers, siblings, aggression, sex-roles, cultural determinants, deprivation and remediation, social cognition, adulthood changes, parenthood. Critical evaluation of theory and current research.

606 Theory and Measurement of Interests. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Major theories of the development of interests. Theoretical and research foundations of the principal inventories of occupational interests. Administration, analysis, reporting, and application in counseling.

607 Advanced Educational Psychology. Semester course; 3 lecture hours. 3 credits. Application of the principles of psychology to the teaching-learning process. Discussion will focus on the comprehensive development of individual learning experiences and educational programs from the point of view of the educator and the administrator.

608 Individual Tests of Intelligence. Semester course; 3 lecture hours. 3 credits. Prerequisites: graduate standing in psychology and permission of chairman of the department. The administration, scoring, interpretation, and research foundations of the major individual tests of intelligence, with emphasis on the Wechsler scales and the Stanford-Binet.

609 Design of Psychological Experiments. Semester course; 2 lecture and 2 laboratory hours. 3 credits. The application of analysis of variance, randomization tests, analysis of ranks, and chi square to designs involving random groups, matched groups, repeated treatment, and repeated measurement, where the dependent variable is behavioral.

610 Attitude Theory and Research. Semester course; 3 lecture hours. 3 credits. Theory and research in attitudes. Attitude formation and change, including cognitive consistency, learning and reinforcement, social judgment, and functional theories.

611 Contemporary Developments in Counseling Psychology. Semester course; 3 seminar hours. 3 credits. Prerequisite: permission of instructor. Contemporary issues, problems, and research related to the practice of counseling psychology; their importance in developing a professional identity and sensitivity to major developments in the field; history, present status, and future directions in the field of counseling psychology.

612 Research Methods in Developmental Psychology. Semester course; 3 lecture-seminar hours. 3 credits. Prerequisite: PSY 627. Research designs, methods, and problems specific to developmental psychology. Cross-sectional, longitudinal, and sequential strategies. Statistical issues, multivariate statistics, and choice of statistical designs appropriate for developmental research questions. Computer skills in organizing and analyzing data. Grant-writing and scientific reporting.

613 Cognitive Development. Semester course; 3 lecture-discussion hours. 3 credits. Prerequisite: Graduate standing in psychology or permission of instructor. The development of the intellectual processes, including reasoning, memory, imagery, and knowledge. Special

attention will be given to theories of cognitive growth. Although the focus will be on child cognitive developments, consideration of life-span issues will be included.

614 Infant Growth and Development. Semester course; 3 seminar hours. 3 credits. Prerequisite: PSY 603 or permission of instructor. Sensory and behavioral capacities of the infant; cognitive, social, and emotional development in the first two years of life, with emphasis on the effects of early experience on function later in life. Consideration of the special problems associated with infant research and intervention programs.

615/GTY 615 Psychological Assessment and Treatment of the Older Adult. Semester course; 3 lecture-seminar hours. 3 credits. Review of theoretical and empirical research on the psychological disorders and problems of late life. Topics include the etiology of disorders, mental health services, methods of evaluating psychological status, drugs and health issues, and successful intervention approaches with the elderly.

616 Psychopathology. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Clinical and experimental contributions to the field of psychopathology, with particular attention to the roles of learning and motivation in the development of behavior disorders.

617 Sensation and Perception. Semester course; 3 lecture hours. 3 credits. The major phenomena of vision, audition, olfaction, gustation, and the skin senses. Psychophysics and the effects of sensory deficits. The relationship of variations in environmental energy to the psychological reactions of sensing and perceiving.

618 Seminar in Personality. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. A detailed exploration of various approaches in personality. Contemporary issues in personality theory.

619 Seminar in Learning. Semester course; 3 lecture-seminar hours. 3 credits. The major problem areas, methodology, and theories of learning are reviewed. Included are measurement techniques, drive and reinforcement, conditioning, memory, and other cognitive processes.

620 Selected Topics. Semester course; 3 lecture-seminar hours. 3 credits. Prerequisite: permission of instructor. Theory, research, and techniques in specialized topics of current interest are presented. May be repeated.

621 Seminar in Motivation. Semester course; 3 lecture hours. 3 credits. A survey of some theoretical views of motivation. Biological, cultural personality, and learning theories of motivation will be covered. Theoretical positions will be related to current empirical findings.

622 Physiological Correlates of Emotion. Semester course; 3 lecture-seminar hours. 3 credits. Research and theories of emotion emphasizing physiological bases, with special attention to neurological and endocrine systems. Application to psychological functioning.

623 Counseling and Psychotherapy. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Exploration of major trends in psychotherapeutic techniques and current research. Principles of

therapy applied to personal, social, vocational, and educational problems.

624 Group Counseling and Psychotherapy. Semester course; 3 lecture-seminar hours. 3 credits. Prerequisite: permission of instructor. Historical perspective. Basic dynamics and processes of therapeutic groups. Role and technique of the group facilitator. Examination of different theoretical approaches.

625 Career Counseling: Theory and Practice. Semester course; 3 lecture-seminar hours. 3 credits. Prerequisite: permission of instructor. Review of major theories and current research in career development. Techniques of career counseling for individuals and groups. Emphasis on late adolescent, adult, and pre-retirement populations.

627 Statistics in Psychological Research. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Applications of descriptive and inferential statistics including significance testing and parameter estimation in empirical and experimental research on human and animal behavior.

628 Cognitive Processes. Semester course; 3 lecture-seminar hours. 3 credits. Theory and research in complex human behavior such as speech perception, memory, language structure and function, problem solving, decision making, and information processing.

629 Biological Basis of Behavior. Semester course; 3 lecture-seminar hours. 3 credits. Prerequisite: an undergraduate course in physiological psychology or permission of instructor. Theory and current experimental research on the physiological and neurological concomitants of behavioral variables.

630 Social Psychology. Semester course; 3 lecture-seminar hours. 3 credits. Topics includes attitudes, social influence processes, person perception, affiliation and attraction, group processes, cultural influences on behavior, and conformity.

631 Seminar in Psycholinguistics. Semester course; 3 lecture-seminar hours. 3 credits. Prerequisite: permission of instructor. Theory and hypotheses regarding cognitive processes based on studies of language behavior. Language structure as related to its human functions. Language acquisition and the developing brain. Comparison of language to other systems which represent and communicate.

632 Research Methods in Social Psychology. Semester course; 3 lecture hours. 3 credits. prerequisites: PSY 627 and 630. Epistemological, methodological, technical, and ethical problems encountered during the scientific study of social psychological phenomena. Emphasizes practical experience in theory development, hypothesis derivation, research planning, data collection, reduction and analysis, and dissemination strategies.

633 Group Dynamics. Semester course; 3 lecture-seminar hours. 3 credits. Theoretical explanations and empirical research related to group formation, development, performance, and dissolution. Topics include obedience, conformity, group productivity, and leadership.

634 Attribution Theory and Research. Semester course;

3 seminar hours. 3 credits. Prerequisite: PSY 630 and permission of instructor. How the perceiver uses behavioral data to make inferences concerning the causes of actions and events. Examines theoretical perspectives, current empirical findings, and the implications of attributions for interpersonal relations, psychological adjustment, and self-processes.

635 Social Psychometrics. Semester course; 3 seminar hours. 3 credits. Prerequisites: Psy 627 and 630 or permission of instructor. Examination of principles, strategies, and methodology of measurement of individual differences in social psychology and personality. Emphasis on creation of research instruments by a combination of the rigorous formation of concepts and practical techniques of attitude and personality measurement. The use of computer statistical packages will aid in development of concrete skills in applied psychometrics.

636 Counseling Practicum. Semester course; one half day per credit. 1-3 credits. A series of training experiences designed to facilitate progressively greater degrees of skill development in counseling psychology. Available only to graduate students in counseling psychology approved by the counseling program committee. May be repeated for a maximum of 10 credits.

637 Seminar in Research Problems. Semester course; 3 lecture hours. 3 credits. An intensive investigation of a specialized research area. Examples include delayed response problems in primates, systematic desensitization in the treatment of phobias, effects of drugs on avoidance learning. Emphasis on techniques and organization of past empirical findings and theoretical formulations. May be repeated for credit.

638 The Evolution of Psychological Systems. Semester course; 3 lecture hours. 3 credits. Prerequisite: core course in student's area of specialization or permission of instructor. A survey of the development and present state of various psychological systems. Current meta-theoretical and systematic issues in psychology.

639 Research Methods in Biopsychology. Semester course; 1 lecture and 4 laboratory hours. 3 credits. Prerequisite: permission of instructor. Methodological, technical, and ethical problems in biopsychology. Examples are design and use of circuits in behavioral sciences, stereotaxic surgery, histology, drug procedures, research design, data collection procedures, and data analysis.

640 Clinical Practicum. Semester course; one half day per credit. 1-3 credits. The graduate student in clinical psychology is given an opportunity to apply and practice interviews and diagnostic and therapeutic skills with clients requiring psychological services. Careful supervision and evaluation of the student is provided. The practicum may be located in a clinic on campus or in a hospital or other agency off campus. Available only to graduate students in clinical psychology approved by the clinical program committee. May be repeated for a maximum of 12 credits.

643 Principles of Psychological Measurement. Semester course; 1 lecture hour. 1 credit. Prerequisite: graduate standing in psychology or permission of instructor. Basic psychometric concepts to prepare the student for

subsequent evaluation instruments. Origins and logic of testing, criteria for judging tests, standardization and reliability, and validity and principles of test development and construction.

644 Assessment of Human Intelligence. Semester course; 1 lecture and 2 laboratory hours. 2 credits. Prerequisite: graduate standing in clinical psychology or permission of clinical program committee and instructor. Theory and administration of intelligence tests. Laboratory requires supervised administration, scoring, interpretation, and written reports of individually administered tests of intelligence.

645 Assessment of Psychopathology. Semester course; 3 lecture hours. 3 credits. Prerequisites: graduate standing in clinical psychology or permission of Clinical Psychology Program Committee and instructor. Use of objective and projective tests in assessment of psychopathology with special emphasis on the clinical interpretation of the Minnesota Multiphasic Personality Inventory (MMPI), and the administration and clinical interpretation of the Rorschach and Thematic Apperception Test (TAT). Emphasis is also placed on integrative report writing.

646 Projective Techniques. Semester course; 3 lecture hours. 3 credits. Prerequisite: graduate standing in clinical psychology or permission of clinical program committee and instructor. Projective devices for the assessment of personality. Supervised administration, scoring, interpretation, and written reports of individually administered projective personality tests.

647 Neuropsychological Assessment. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: graduate standing in psychology and permission of instructor. Psychological assessment of brain-behavior relationships in the context of neurological or neurosurgical problems. Emphasis is on current modifications of Halstead's tests and on the Reitan-Indiana Neuropsychological Battery for younger children. Laboratory requires supervised administration, scoring, and interpretations of neuropsychological test batteries.

648 Idiographic Assessment of Clinical Problems. Semester course; 1 lecture and 2 laboratory hours. 2 credits. Prerequisites: PSY 643 and graduate standing in psychology or permission of clinical program committee and instructor. Self monitoring, independent observation, and psychophysiological assessment, as they relate to behavioral formulations of clinical problems. Laboratory requires supervised behavioral codings and written reports. General procedures for psychophysiological assessment will be demonstrated.

649 Clinical Assessment of Child Disorders. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisites: PSY 643, 644, and graduate standing in clinical psychology or permission of clinical program committee and instructor. Administration and interpretation of intellectual and personality assessment instruments for children. Laboratory requires supervised administration, scoring, interpretation, and written reports of these assessment instruments.

650 Advanced Child Psychopathology. Semester course; 3 lecture hours. 3 credits. Prerequisite: permis-

sion of instructor. Principal childhood behavioral abnormalities: mental retardation, psychosis, learning disabilities, speech and language problems, school-related behavioral problems, neurosis, psychosomatic disorders, and juvenile delinquency. Genetic, prenatal, somatic disorders, and juvenile delinquency. Genetic, prenatal, perinatal, postnatal, and social-psychological factors related to etiology. Integration of assessment and treatment methods.

669 Communication Approaches to Psychotherapy. Semester course; 3 lecture-seminar hours. 3 credits. Prerequisite: permission of instructor. Theory and research in nonverbal communication. Communication theories of psychotherapy and a communication analysis of key concepts in psychotherapy.

670 Seminar in Gestalt Therapy. Semester course; 3 seminar hours. 3 credits. Prerequisite: permission of instructor. Philosophical basis, historical background, theoretical formulation, techniques, and application of Gestalt therapy. Students will have the opportunity to practice and observe the techniques.

671 Readings and Research. Semester course; 1-3 credits. Prerequisite: written permission of instructor. Individual study leading to the investigation of a particular problem in systematic fashion under the supervision of a member of the faculty. May be repeated for a maximum of nine credits.

675 Current Problems in Psychology. Semester course; 1 lecture hour. 1 credit. A discussion of some of the current problems of interest to psychologists with particular emphasis on scientific publication, professional organizations, and ethics.

677 Internship. No credit. Prerequisite: approval of the director of the program involved. The internship is a one-year, full-time assignment, under supervision, to an agency approved by the student's program committee.

701 M.S. Thesis. 1-6 credits. May be repeated.

703 Ph.D. Dissertation. 1-12 credits. May be repeated.

Department of Sociology and Anthropology

FACULTY

Professors: Diana; McGrath, Palen

Associate Professors: Dennis; Franks; Henry (Mathematical Sciences); Johnson (Acting Chairman); Knipe; Mednick; Nelson; Schwartzbaum; Williams

Assistant Professors: Bookin; Hartman; Honnold; Levin; Marolla; McAuley (Center on Aging); Odell; Perlman; Scully; Studer; Zollar

The Department of Sociology and Anthropology offers programs leading to the degree of Master of Science with specializations in several areas. The goal of the graduate program in sociology is to facilitate the development of theoretical, methodological, and substantive competence ap-

propriate for students' interests and career goals.

In addition to the general requirements for admission to graduate programs in the School of Arts and Sciences, the following guidelines set by the Department of Sociology and Anthropology are used in evaluating applications for graduate study in sociology:

1. To be admitted as regular graduate students in the department, applicants must submit a transcript of their undergraduate course work and the results of their Graduate Record Examination in general aptitude (quantitative and verbal) and an advanced area.
2. Admission priority is given to students with an undergraduate grade point average of 3.0 or higher on a 4-point scale. Students with grade point averages below 3.0 are to be evaluated by the Graduate Program Committee on the basis of the GRE scores, recommendations from references, and other data submitted by applicants.
3. To be admitted as a regular graduate student, applicants must have completed 24 semester hours in the social sciences (including history), with at least 12 in sociology. Undergraduate work in sociology should include a survey of sociological theory, research methods, and statistics. Students who are otherwise qualified for admission but lack this background may be admitted provisionally, with the stipulation that they will make up any deficiencies specified by the Graduate Program Committee.

Because of the diversity in different institutions of higher education, students trained abroad must be judged on an ad hoc basis. Criteria on which this judgment is based include the reputation of the foreign university, the student's academic record, proficiency in English, and recommendations from professors. The university requires that foreign students demonstrate guarantees of financial support.

A limited number of assistantships are available for qualified applicants. Files of applicants for assistantships should be complete by March 1. Individuals not applying for assistantships should file their applica-

tions for graduate study as early as possible to permit adequate review and to insure consideration. Applications which reach the university after July 1 for the fall semester and after November 15 for the spring semester may not be processed in time for registration.

PROGRAM LEADING TO THE DEGREE OF MASTER OF SCIENCE IN SOCIOLOGY

Thirty hours of graduate course work must be completed in the sociology master's program including the following core courses:

SOC 601 Advanced Methods of Social Research

SOC 602 Seminar in Sociological Theory

SOC 608 Advanced Statistical Methods

SOC 622 Theory Construction or SOC 623 Causal Analysis

SOC 701 Research Practicum I

SOC 702 Research Practicum II

Written comprehensive examinations in theory and research methods/statistics must be taken after students complete their first 18 hours of graduate study, including SOC 601, 602, and 608. Students admitted provisionally must also have achieved regular student status.

In the research practicum sequence, a master's thesis is developed under the supervision of a thesis committee and the general guidance of the research practicum coordinator. Both SOC 701 and SOC 702 are structured by a seminar format which is designed to help the student complete all thesis work in two semesters while taking a full course load.

Up to six graduate credits from other schools or other departments may be accepted toward the M.S. degree upon approval of the Graduate Program Committee. If courses not designated as approved electives are to be taken outside the department while students are enrolled in the master's program in sociology, prior transfer approval should be sought.

Graduate students are expected to maintain an overall grade point average of at least 3.0 ("B"). A student who does not maintain a 3.0 average may be dropped from the master's program at any time by the Graduate Program Committee. Any gradu-

ate student who does not have at least a 3.0 average after completing 15 hours of graduate work will be dropped from the program.

A graduate student must have earned an overall grade point average of 3.0 to receive a degree.

PH.D. PROGRAM

A doctoral program in social policy and social work is jointly sponsored by the Department of Sociology and Anthropology, School of Arts and Sciences, and the School of Social Work. The program is designed to prepare persons in the development, implementation, and evaluation of programs and policies concerned with various social problems and to prepare clinical social work educators well grounded in research, theory, and teaching methods.

Each participant will choose one of the following areas of specializations: social policy, analysis, applied social research, program administration, or clinical social work education.

Applicants to the program must have earned a master's degree in social work, sociology, or a related discipline. The Graduate Record Examination Aptitude Test is required of all applicants.

For application forms and additional information, write to the dean of the School of Graduate Studies, Virginia Commonwealth University, Box 568, MCV Station, Richmond, VA 23298. See "Interdisciplinary Programs" in this bulletin for detailed information.

GRADUATE COURSES IN SOCIOLOGY (SOC)

600 Advanced Principles of Sociology. Semester course; 3 lecture hours. 3 credits. A comprehensive analysis of the concepts and techniques useful for understanding society and culture as well as the social processes and structures operant within these spheres.

601 Advanced Methods of Social Research. Semester course; 3 lecture hours. 3 credits. Prerequisites: SOC 214 and 320 or equivalent. Research as a systematic process involving formulation of the problem, design of the research, field operation, the processing and analysis of data, and preparation of the research report. Also considered are critical analyses of current methods, administration of research projects, and the significance of research to social action.

602 Seminar in Sociological Theory. Semester course; 3

lecture hours. 3 credits. A graduate level seminar emphasizing contemporary sociological theories.

603 Seminar in Population Studies. Semester course; 3 lecture hours. 3 credits. Analysis of fertility, mortality, and migration from a sociodemographic perspective. Special attention will be paid to sociological determinants of demographic processes and their interrelationships.

604 Sociology of Work in Industry. Semester course; 3 lecture hours. 3 credits. Analyses of work relations and the social structures and mechanisms which govern and arise out of them and examination of the social problems that are inherent in the characteristics that make a society an industrial society.

607 Seminar in Racial and Ethnic Relations in America. Semester course; 3 lecture hours. 3 credits. A study of inter-group relations in such areas as busing and school desegregation, racism, minority separatist movements, ethnic-racial violence, minorities and athletics, the emergence of white ethnic groups in the political systems, and the position of minorities in legal, economic, and medical institutions.

608 Advanced Statistical Methods. Semester course; 3 lecture hours. 3 credits. Prerequisites: SOC 214 and 320 or equivalent. A discussion of statistical methods related to sociological research. The statistical techniques include correlation and regression, multiple correlation, and multiple regression, T test, one- and two-way analysis of variance, non-parametric statistical techniques—especially PRE measures.

609 Seminar in the Family. Semester course; 3 lecture hours. 3 credits. Analysis of contemporary family life with an emphasis on the influence of social change. Consideration of current family crises and problems.

610 Complex Organizations. Semester course; 3 lecture hours. 3 credits. A study of complex organizations in society with emphasis on the determinants and effects of organizational structure and process.

611 Studies in the Community. Semester course; 3 lecture hours. 3 credits. The organization of the community with emphasis on major trends in urban development and growth. The interdependence of political, social, and economic geographic units. The need for cooperative planning and control.

612 Seminar in the Sociology of Deviant Behavior. Semester course; 3 lecture hours. 3 credits. The nature and functions of deviance. Theories and problems of social control.

613 Social Stratification. Semester course; 3 lecture hours. 3 credits. An in-depth analysis of status differentials in society (e.g. social class, prestige, and power.).

614 Seminar in the Sociology of Education. Semester course; 3 lecture hours. 3 credits. A sociological analysis of education as a social institution with an emphasis on methodological issues and policy implications.

615 Seminar in Mass Communications. Semester course; 3 lecture hours. 3 credits. A sociological analysis of contemporary media and their interrelationships with social systems, media, and national development. Special emphasis on media as instruments of social and

cultural change. (Some theoretical background in sociology is recommended.)

616, 617 Independent Study and Reading. Semester course. 1-3 credits per semester. Prerequisites: permission of an instructor and the Graduate Program Committee. A maximum of six credits may be submitted toward the master's degree.

620 Seminar in Criminology. Semester course; 3 lecture hours. 3 credits. Discussion and investigation of contemporary issues in criminology. Special emphasis on research problems in and theories of crime causation.

622 Theory Construction. Semester course; 3 lecture hours. 3 credits. A consideration of recent social theorists in which emphasis is placed on the logic of theory construction.

623 Causal Analysis. Semester course; 3 lecture hours. 3 credits. Prerequisites: SOC 602 and 608 or equivalent. An examination of the utility of causal reasoning in the social sciences, and an introduction to causal modeling. Topics studied include the development of theoretical linkages, recursive and nonrecursive path estimation, causal thinking and theoretical refinement, and policy analysis and system dynamics.

625 Urban Sociology. Semester course; 3 lecture hours. 3 credits. Prerequisite: graduate standing. A detailed analysis and examination of the social and ecological structures and processes of the modern city with primary emphasis on the macro-level organization of urban life.

630 Social Psychology. Semester course; 3 lecture hours. 3 credits. Discussion and investigation of selected social psychological issues in sociology, as well as traditional and innovative methodology applied to these issues.

640 Seminar in Political Sociology. Semester course; 3 lecture hours. 3 credits. Analysis of structures and processes of political organization. Examination of the creation and management of power, diffusion and regulation of conflict, and the politics of modernization and bureaucratization.

645 The Sociology of Health and Illness. Semester course; 3 lecture hours. 3 credits. An examination of sociocultural factors in health and illness and the influence of social factors on recovery and rehabilitation. Special attention will be paid to the methodology found in current studies.

698-699 Topical Seminar. Semester courses; 3 lecture hours. 3 credits. Seminars on current specialized areas of sociological and anthropological interest.

701 Research Practicum I. Semester course; 3 lecture and conference hours. 3 credits. Prerequisites: SOC 601, 602, 608 and at least a "B" average in all graduate work at VCU. The initial phases of a research project will be studied and completed: problem identification and statement, literature review, theoretical assumptions and framework, and research design and procedures. The course coordinator will structure class assignments and meetings to facilitate project development. Under the supervision of a three-member faculty committee, each student will prepare an original research proposal and defend it publicly.

702 Research Practicum II. Semester course; 3 lecture and conference hours. 3 credits. Prerequisite: a grade of at least "B" in SOC 701. An original research project proposed in SOC 701 will be executed and reported under the supervision of a three-member faculty committee and the general guidance of the course coordinator. The status of each project will be periodically reviewed in regular class meetings during the semester. The research will be described in (1) a master's thesis, and (2) a shortened article-length paper. The departmental faculty will be given the opportunity to examine and critique the master's thesis before the completion of the course.

ADDITIONAL GRADUATE COURSES AVAILABLE IN THE SCHOOL OF ARTS AND SCIENCES

FRE 500 French for Graduate Students. Semester course; 3 lecture hours. 3 credits. This course is designed to prepare graduate students for the reading knowledge examination for higher degrees. Each graduate department will determine the nature and form of the certifying examination.

GEO 550 Physical Geography of Virginia. Semester course; 6 field hours. 3 credits. Field course, traversing the varied physical regions of Virginia with emphasis on the climate, terrain, soils, and vegetation of each region and on the transitional zones in between. Human modification of the physical environment and its consequences are also stressed.

GEO 551 Cultural Geography of Virginia. Semester course; 6 field hours. 3 credits. Field course, traversing the various cultural regions of Virginia with emphasis on the basic economic activities of each area, the cumulative effect of occupation of the regions, and past and present changes in the cultural landscape.

GEO 698 Geography Workshop. Semester course; 1 lecture or two field hours per credit. 1-6 credits. Lecture, laboratory, and/or field course; may be repeated with different topics to a maximum of 9 credits. An intensive study of a particular area or topic in geography. See Schedule of Classes for specific workshops to be offered each semester.

GER 500 German for Graduate Students. Semester course; 3 lecture hours. 3 credits. This course is designed to prepare graduate students for the reading knowledge examination for higher degrees. Each graduate department will determine the nature and form of the certifying examination.

HIS 697 Directed Independent Study. Semester course. 1-3 credits. Maximum of 6 credits. Prerequisite: permission of chairman of Department of History and director of graduate studies in department in which student is pursuing graduate work. For students in English or other graduate programs to analyze an historical problem or topic in depth under faculty supervision.

PHI 508/RST 508 Indian Tradition. Semester course; 3 lecture hours. 3 credits. A systematic analysis of the major theories of Indian religious and philosophical thought: Vedas, Upanishads, Gita, Charvaka, Jainism, Buddhism, the six systems of Hinduism and contemporary developments.

PHI 510/RST 510 The Chinese Tradition in Philosophy. Semester course; 3 lecture hours. 3 credits. A study of the development of Confucianism, of alternative ways of thought prior to the fall of the Han Dynasty, and of neo-Confucianism. The systems of thought are examined in the light of their social, political, and religious impact on China, Korea, and Japan.

PHI 512/RST 512 Buddhism in East Asia. Semester course; 3 lecture hours. 3 credits. A survey of the development of Buddhism in China, Korea, and Japan, the formation of the various schools in each country, and their role in the molding of Far Eastern culture.

PHI 521-522 Aesthetics. Semester course; 3 lecture hours. 3, 3 credits. A critical survey of aesthetics from antiquity to the twentieth century. First semester: antiquity to the Renaissance; Second semester: the Renaissance to the present. Topics to be considered include: the nature of art, aesthetic experience, the aesthetic object, and aesthetic judgments. Specific attention will be given to aesthetic analysis in the arts of painting, music, architecture, and the motion picture.

PHI 530 Philosophy of Religion. Semester course; 3 lecture hours. 3 credits. An introduction to the major problems and questions of religion and reason. Special reference will be made to the nature of God, the nature of man, the problem of evil, the source of good, immortality, and the basis of authority.

PHI 601 Principles of Ethics. Semester course; 3 lecture hours. 3 credits. Prerequisite: graduate standing. An examination of major ethical theories and their application to contemporary issues in medicine, science, and public policy.

602 Biomedical Ethics. Semester course; 3 lecture hours. 3 credits. An examination of ethical theory and its application to moral problems in medicine and biotechnology.

PHI 690/PAD 690 Administrative Ethics. Semester course; 2, 3 hours. 2, 3 credits. No prerequisite. A philosophical investigation into the problems of making ethical decisions, focusing on issues likely to confront the public administrator. Examples of such issues are: equity in social services delivery, affirmative action, loyalty to the bureaucracy vs. "whistle blowing," and conflicts of interest between personal and public interest.

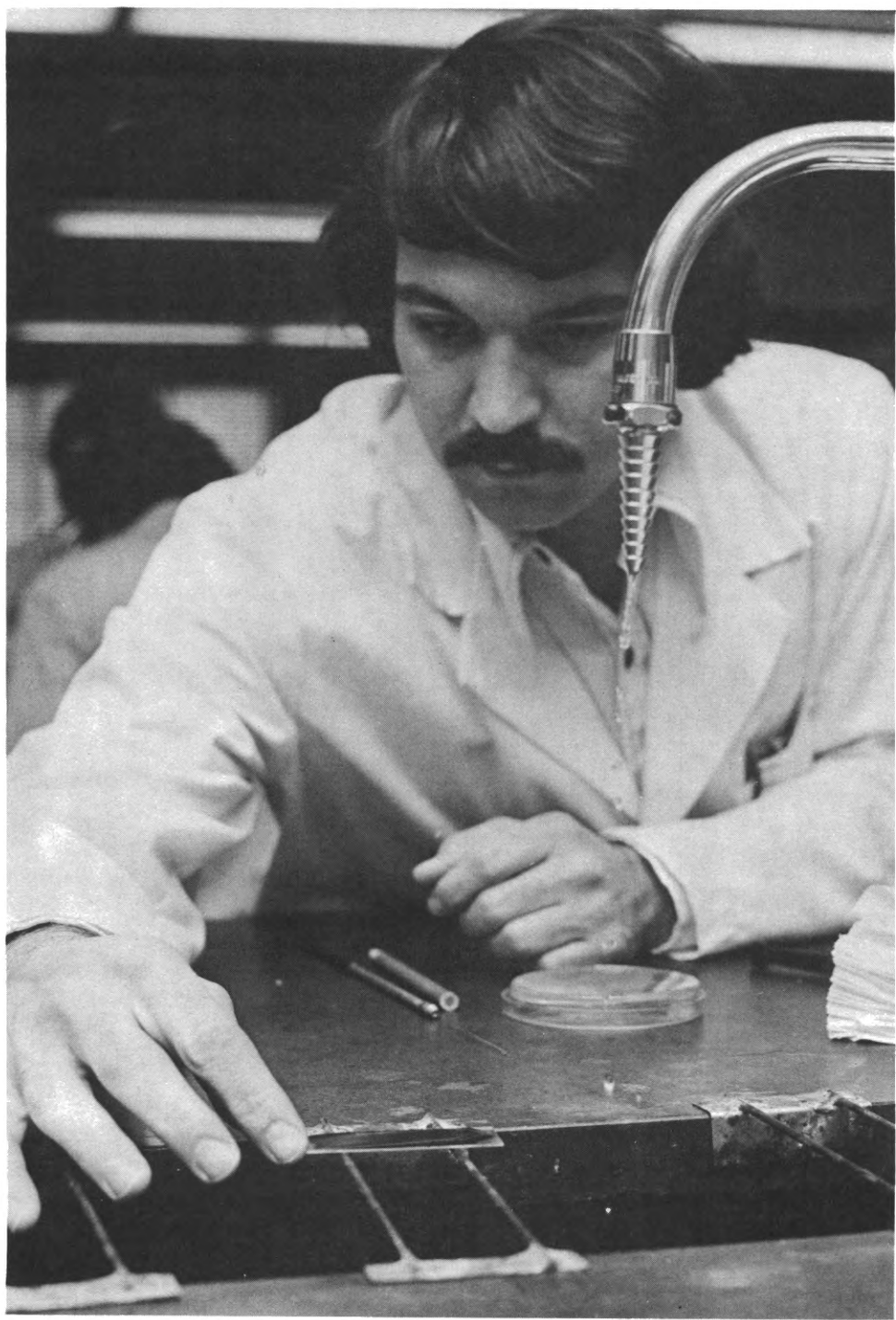
PHY 571 Theoretical Mechanics. Semester course; 3 lecture hours. 3 credits. Prerequisites: PHY 337 and MAT 301 or permission of instructor. An introduction to advanced dynamics involving the Lagrangian and Hamiltonian formalisms.

PHY 576 Electromagnetic Theory. Semester course; 3 lecture hours. 3 credits. Prerequisites: PHY 362 and MAT 301 or permission of instructor. Maxwell's equations of electromagnetism, vector and scalar potentials, electromagnetic waves, and radiation theory.

PHY 580 Quantum Mechanics. Semester course; 3 lecture hours. 3 credits. Prerequisites: PHY 351, MAT 301, or permission of instructor. Theoretical quantum descriptions with emphasis upon mathematical techniques. Schrodinger equation, hydrogen atom, eigenfunctions and eigenvalues, angular momentum and spin, and perturbation theory.

POS 553 The Military in Politics. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. The course will examine the pervasive character and growing importance of the military in the governmental and policymaking processes. It will include a study of the history of civil-military relations, and of the changing dynamics of the relationship that occurs in response to changes in social and political contexts and as a result of technological changes in the military and warfare.

POS 660/PAD 660 Community Power Dynamics. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of department. Examination of the location of power in the American community: operational concepts and general methodological approaches defined; empirical findings based on various methodological approaches: conclusions on community political systems and power.



PART V— School of Basic Sciences

ADMINISTRATIVE OFFICERS

DANIEL T. WATTS, Ph.D.

Dean

JOSEPH V. FORMICA, Ph.D.

Associate Dean

HISTORY

Basic sciences historically have been an integral part of the curriculum of medicine, dentistry, pharmacy, nursing, and allied health fields. In the earlier years of this university, the basic sciences departments were administered by the School of Medicine with the dean of that school working with a committee of deans to establish policy for the teaching of the basic sciences in the several professional schools. In 1966, by the action of the Board of Visitors, a separate School of Basic Sciences and Graduate Studies was established and a dean was appointed as administrative head of the school. In 1974, with the establishment of a university-wide graduate program, it became the School of Basic Sciences. The Ph.D. programs at MCV continue to be administered through the dean of the School of Basic Sciences who serves as chairman of the MCV Graduate Committee.

PROGRAM

All departments in the School of Basic Sciences provide instruction in their disciplines for students in the other schools on the MCV Campus. By developing large,

strong departments with a good balance of faculty, postdoctoral fellows, and graduate assistants, it is possible to provide quality instruction for all the health profession schools, and to maintain strong research, M.S., and Ph.D. programs; including combined M.S. or Ph.D.; M.D. or D.D.S. programs.

PH.D. AND M.S. PROGRAMS IN THE SCHOOLS OF BASIC SCIENCES, MEDICINE, AND PHARMACY

The graduate programs in the Schools of Basic Sciences, Medicine, and Pharmacy at the Medical College of Virginia are under the supervision of a Graduate Committee which is composed of one faculty member from each department offering graduate degrees. The dean of the School of Basic Sciences serves as chairman of this committee, and assumes the administrative responsibilities for admission, curriculum, and awarding of degrees.

The current membership of this committee is: Dr. Juan A. Astruc, anatomy; Dr. Joseph P. Liberti, biochemistry; Dr. Sung Choi, biostatistics; Dr. Richard C. Franson, biophysics; Dr. JoAnn Boughman, genetics; Dr. Philip H. Coleman, microbiology; Dr. Robert L. Balster, pharmacology; Dr. Steven Price, physiology; Dr. George W. Gander, pathology; Dr. Marvin Boots, pharmaceutical chemistry; and Dr. John H.

Wood, pharmacy and pharmaceuticals. Committee members are appointed by their respective deans upon the recommendation of the department chairmen. The committee meets monthly, or more often if necessary and establishes and maintains admission requirements and rules and procedures for awarding the M.S. and Ph.D. degrees. Courses to be offered for graduate credit in these schools must have the approval of this committee, following the rules and guidelines established by the University Graduate Council.

REQUIREMENTS FOR ADMISSION

1. The purpose of admission requirements and procedures is to encourage applications from competent students and to insure selection of those whose motivation, ability, education, and character qualify them to successfully pursue graduate study in preparation for a scientific career.
2. To be considered for admission to graduate programs, all applicants must have earned a baccalaureate or an equivalent degree, prior to admission. Additional entrance requirements for specific programs of graduate study are stipulated by the several departments.
3. The following credentials constitute an application and should be sent to the dean, School of Basic Sciences, Medical College of Virginia, Virginia Commonwealth University, Box 110, MCV Station, Richmond, VA 23298.
 - a) Application for admission on a form furnished to the applicant on request. A fee of \$10, in the form of a check or money order (payable to VCU), must accompany the application. The fee cannot be returned nor credited toward tuition payment.
 - b) Official transcripts of all undergraduate and graduate records, sent directly from the college or university registrars to the Office of the Dean, School of Basic Sciences.
 - c) Letters of recommendation from three present or former teachers, or others believed by the applicant to be qualified to evaluate fitness to engage in graduate study for the degree in the field of choice.
 - d) A personal letter from the applicant summarizing his motivation, education, and aims in pursuing graduate study.
 - e) A recent passport size photograph.
 - f) Verbal, quantitative, and analytical portions of the Graduate Record Examination are required. Advanced test (biology, chemistry, physics, or mathematics) are recommended where appropriate. The Medical College Admission Test or Dental Aptitude Test is acceptable in lieu of the Graduate Record Examination for combined degree programs. Scores are to be sent to the dean. For information on this examination, contact the Office of Student Services, School of Education. 2087 Oliver Hall, (804) 257-1296 on the Academic Campus; or Educational Testing Service, Box 955, Princeton, NJ 08540.
 - g) Foreign applicants who do not use English as their natural language must have a TOEFL score greater than 550—See section on foreign students.
4. Acceptance of an applicant rests with the dean of the School of Basic Sciences upon recommendation of the chairman of the major department.

REGISTRATION

While most students register for the first semester, beginning in August, arrangements may be made to initiate graduate work at other times during the academic year.

SCHOLARSHIPS, ASSISTANTSHIPS, AND FELLOWSHIPS

Graduate students may apply for a number of state or federal teaching assistantships, scholarships, or fellowships, including the A. D. Williams fellowships (college en-

dowment). These usually pay \$3,000—5,040, plus tuition and fees on a calendar year basis.

A brief description of financial aid based on demonstrated need is contained in Part I of this bulletin. Need-based aid programs include National Direct Student Loan, college work-study, and institutional loans.

THE STUDENT'S ADVISOR AND GRADUATE COMMITTEE

1. Each student shall have an advisor and a graduate committee.
2. Appointment and duties of the advisor.
 - a) An initial advisor will be the director of the graduate program of the student's department, or his designee.
 - b) A permanent advisor shall be appointed by the dean upon recommendation of the chairman of the student's major department. Appointment should be made no later than the second semester after acceptance. A change in advisor may be made by the dean upon recommendation of the chairman of the major department.
 - c) The advisor shall be chairman of the student's graduate committee.
 - d) The advisor shall, with the student's graduate committee, have responsibility for the total guidance of the student, subject to the approval of the chairman of the major department and dean of the School of Basic Sciences.
 - e) The advisor shall work out a plan of study with the student.
 - f) The advisor shall supervise the student's research work and thesis preparation and be one of the examiners of the thesis.
 - g) At the close of each academic year, the advisor shall submit to the Office of the School of Basic Sciences, a statement covering the progress of the student and recommendations as to whether or not his graduate studies shall be continued.

3. Appointment and duties of the student's graduate committee.

- a) The student's graduate committee shall be appointed by the dean upon recommendation of the student's advisor. The composition of the graduate committee shall be such that all significant areas of the student's course work are represented. For the purpose of examinations and thesis evaluation, and because of special knowledge and distinction in the field of the candidate's work, an additional member, who may be from a different institution, may be appointed to the student's graduate committee by the dean. Changes in the membership of the committee are made in the same way.
 - (i) The committee for the Ph.D. candidate shall consist of a minimum of five members as follows: the student's advisor; two representative members of the graduate faculty of the department in which major work is to be taken; and at least two other representatives of the graduate faculty outside the major department, where feasible, from two different departments.
 - (ii) The committee for the M.S. candidate shall consist of a minimum of three members as follows: the student's advisor; one other representative member of the graduate faculty of the department in which major work is to be taken; and one representative of the faculty outside the major department.
- b) The student's graduate committee shall work with the student's advisor in guiding the student's graduate program.
- c) The student's graduate committee shall recommend and approve a degree program (including foreign language if applicable) for the student as soon as practical.

The proposed M.S. program should be filed with the dean's office no later than the beginning of the second semester of study; for the Ph.D. degree, no later than the beginning of the third semester of study. In approving a foreign language, the student's graduate committee is guided by the importance of the language in the scientific literature of the student's major subject.

- d) The student's graduate committee shall conduct his oral comprehensive and final examinations and act as moderators for the thesis.

GENERAL REQUIREMENTS FOR GRADUATE DEGREES

1. All full-time graduate students are expected to register for a minimum of 12 semester hour credits per semester and six semester hours during the summer. This requirement includes research. As an example, when a student is registered for ten credits in formal courses, he is expected to undertake two or more credits of research under his advisor or other approved faculty member.
2. Grades are assigned with these values: A—excellent, indicating unusual achievements; B—clearly satisfactory; C—passing; D—unsatisfactory for graduate credit; F—failure. The grade-point value of the grades shall be 4,3,2,1, and 0 for A,B,C,D and F, respectively. No student may take the comprehensive examination for the Ph.D. degree or the final oral examination for the M.S. degree if his overall grade-point average is less than 2.5 or if his grade-point average for courses within his major department is below 3.0. Research credits shall not be counted in computing this average, and shall be graded as P—pass satisfactory; or F—fail. Other grade interpretations are described in Part I of this bulletin.
3. All cases of unsatisfactory student performance, including any grade of D or F, failure to pass written or oral comprehensive examinations, or thesis or final examinations require action of the MCV Graduate Committee to permit the student to continue.
4. Proficiency in a foreign language is not a degree requirement. However, in some graduate programs, due to the nature of the discipline, the demonstration of proficiency in a foreign language can be required by the student's advisory committee as stipulated by the department. When a foreign language is required, each foreign language examination shall be given by an examiner approved by the dean. The dean may elect to accept, as evidence of satisfactory foreign language knowledge, a comparable examination at another graduate school.
5. Five or more copies of the thesis (as required) prepared according to standards approved by the school's graduate committee, shall be sent to the student's graduate committee in final form three weeks or more before the date of graduation. (Graduation dates are in May, August, and December.) These copies are to be submitted in temporary binders. Following acceptance of the thesis and passing of the final examination, it shall be the responsibility of the candidate to present to the dean's office five copies of the thesis suitable for binding along with a check to cover the cost of handling.
6. The dean will recommend the granting of a degree, only after all requirements have been fulfilled, including payment of all fees to the university, and after submission of the copies of the thesis for binding. Degrees are not granted *in absentia* unless specific written request is made to the dean and permission is granted by him or her.

MASTER OF SCIENCE

1. Advanced graduate study leading to the Master of Science degree is offered in the Departments of Anatomy, Biochemistry, Biophysics, Biostatistics, Human Genetics, Microbiology, Pathology, Pharmacology, Pharmacy

and Pharmaceutics, Pharmaceutical Chemistry, and Physiology.

2. A minimum of 24 semester hours is required, exclusive of research credits. In practice, it is found that two years of study usually are necessary to complete the requirements. A time limit of five calendar years, beginning at the time of first registration, is placed on work to be credited toward the Master of Science degree. As many as 12 semester hours credit may be given for work previously completed, upon recommendation of the student's graduate committee with concurrence by the dean.
3. Each department, at its own discretion, may stipulate one foreign language requirement for the master's degree. It is strongly recommended that the student satisfy the foreign language requirement as soon as possible after beginning his program. The student must do so at least two months before submission of the thesis.
4. Each student conducts a research study under the guidance of his advisor. This study is reported in a thesis, prepared in acceptable form and style. On approval of the thesis by the advisor, the student submits a copy to each member of his/her graduate committee.
5. The thesis is examined by the student's graduate committee members, acting as moderators, who shall decide upon its acceptability. The moderators may confer with one another before making their decision. Each moderator shall report to the dean through the student's advisor when the thesis is acceptable for defense. The thesis is approved only if the moderators accept it unanimously.
6. On approval of the thesis, the student appears for a final oral examination administered by the student's graduate committee (and any appointed additional moderator). The dean, or his appointee, serves as chairman of the examination committee. Final examination shall be open to the faculty, and its time and place (together with

the candidate's name, department, and title of thesis) shall be announced at least seven days in advance.

7. The final examination of an M.S. candidate includes the subject matter of course work as well as the thesis. A favorable vote, with no more than one negative vote, is required for the candidate to pass the examination. Only members of the student's graduate committee and the examiner appointed by the dean shall vote. The dean, or a faculty member representing him, will attend all oral examinations and will cast a vote. No examiner may abstain from voting.
8. The candidate, having fulfilled all the requirements for the degree of Master of Science, is recommended by the dean to the president for the degree.

DOCTOR OF PHILOSOPHY

1. Advanced graduate study leading to the Doctor of Philosophy degree is offered in the Departments of Anatomy, Biochemistry, Biophysics, Biostatistics, Human Genetics, Microbiology, Pathology, Pharmaceutical Chemistry, Pharmacy and Pharmaceutics, Pharmacology, and Physiology.
2. At least two years in residence are required for entering students holding the M.S., M.D., or D.D.S. degrees and at least three years for those entering with the baccalaureate degree only. A time limit of seven calendar years, beginning at the time of first registration, is placed on work to be credited towards the Doctor of Philosophy degree.
3. A student becomes an applicant for the doctorate when he or she has been admitted as such to graduate studies. No assurance as such is given that the student will become a candidate for the Ph.D. degree until the student has given evidence of superior scholarship.

Admission to Candidacy

Before admission to candidacy for the doctorate, the student must have satisfied the (1) language requirements, if applicable,

(2) completed required course work, (3) successfully completed the comprehensive examinations, and (4) fulfilled any additional departmental requirements. A student is admitted to candidacy by the dean upon recommendation of his advisor and his graduate committee, with the approval of his major department.

Comprehensive Examinations

1. Upon satisfactory completion of all required, formal course work and successful passing of foreign language examination(s) (if required), the student takes written and oral comprehensive examinations. The written examination is administered by the student's major department. The student's committee may require that he or she have a minor field of study, in which case the student will also take a written comprehensive examination given by that department. In the event of failure in the written comprehensive examination in the major or minor department, the student, with the approval of the MCV Graduate Committee, may be permitted to repeat the written examination in the department in which the failure occurred.
2. After successfully passing the written examination(s), the student will take the oral portion within one month. This examination is conducted by the student's graduate committee. A favorable vote of the graduate committee with no more than one negative vote (all members being required to vote) shall be required to pass the oral portion of the comprehensive examination. The dean or a faculty member representing him will chair the oral examination and will cast a vote.
3. If a student passes the written comprehensive examination, but fails the oral part, he or she may be re-examined only in the oral part with the approval of the MCV Graduate Committee.
4. The oral comprehensive examination is open to all members of the faculty. Faculty members in attendance may ask questions of the candidate, but

their questions shall not be presented until after the graduate committee has completed its questions. Faculty members other than those on the committee shall not vote on the success or failure of the candidate. The time and place of the examinations shall be posted at least seven days in advance.

5. The examination must be successfully completed at least six months before submission of the dissertation.

Dissertation Research

1. The student must conduct a substantial original investigation under the supervision of his advisor and prepare a dissertation reporting the results of this research and analyzing its significance in relation to existing scientific knowledge.
2. When the dissertation has been completed, five copies, or more as required, in acceptable form and style are submitted to the members of the graduate committee who act as moderators for the dissertation. These moderators decide upon the acceptability of the candidate's thesis. A favorable unanimous vote is required to approve the dissertation and all examiners are required to vote.
3. If the moderators accept the dissertation for defense, the candidate appears before them for a final oral examination. The dean, or his representative, shall serve as chairman of the committee. This examination is open to all members of the faculty. The final oral examination will be limited to the subject of the candidate's dissertation and related matters. A favorable vote of the candidate's moderators, and no more than one negative vote, shall be required for passing the final oral examination. All moderators including the dean or his representative must vote. There shall be prior announcement of the candidate's name and department, and title of dissertation, together with the day, place, and hour of the final oral examination at least seven days in advance.
4. The candidate, having fulfilled all of

the requirements for the degree of Doctor of Philosophy, is recommended to the president for the degree.

In summary, all M.S. and Ph.D. candidates are trained to be both research scientists and teachers; consequently, all graduate degree candidates are required to:

1. Complete specified course work, usually about 24 semester hours for the M.S. degree and 60 semester hours for the Ph.D. degree.
2. Pass oral and written examinations.
3. Complete a research project, usually based on extensive laboratory experiments and prepare a thesis for the M.S. degree and dissertation for the Ph.D. degree.
4. When financial resources are available, present the results of their investigations at national scientific meetings.
5. Demonstrate proficiency in laboratory and classroom teaching.

SPECIAL STUDENTS

Upon recommendation of the department, the dean may admit for individual courses students who are not candidates for a degree. Students must obtain permission from the instructor before being allowed to register. Special students who carry full-time employment will be limited to one course per semester, usually about three or four semester hours credit.

SUMMER REGISTRATION

Graduate students are expected to devote ten or more weeks during the summer to fulltime research. Students registered for research credit are billed at the established tuition rate.

TRAINING AS A TEACHER

Currently there is increased emphasis on competence as a teacher as well as an investigator for faculty members of colleges, universities, and professional schools. In addition to practical experience, laboratory teaching, and lecturing, students should give consideration to courses offered by VCU School of Education concerning learning theory, instructional strategy, and educational technology in adult education.

A complete listing of courses in education available in the university can be obtained from the School of Education, Office of Graduate Studies, 1001 West Main Street, Richmond, VA 23284, (804) 257-1296.

COMBINED M.S./PH.D AND M.D. OR D.D.S. DEGREE PROGRAMS

Many future physicians and dentists, especially those interested in academic and research careers, need to start in-depth training in research while still in school or residency training. This need can be effectively met by completing the requirements for the M.S. or Ph.D. degree concurrently with the study of medicine or dentistry. The MCV/VCU medical and dental curricula, with free time for elective courses and research, provide an excellent opportunity for interested students to enter a combined M.S./Ph.D.-M.D. or D.D.S. program.

Admission of medical and dental students regularly enrolled in these schools to this combined degree program is processed through the office of the dean of the School of Basic Sciences by established procedures. The Medical College Admission Test or Dental Aptitude Test is accepted in lieu of the Graduate Record Examination. Undergraduate transcripts and references are obtained from the professional school. No application fee is required since the student is already regularly enrolled in a school of the university.

The requirements for a combined professional school-graduate school degree in basic sciences are equivalent to those required of students seeking a graduate degree alone and are determined by the individual department. One of the graduate committee members is the student's professional school advisor.

The minimum graduate residence requirement is one year for the M.S. and two years for the Ph.D. degree. Twenty-four weeks of graduate work (two summers) will be considered equivalent to one year of residence. A time limit of five calendar years for the M.S. and seven calendar years for the Ph.D. degree, beginning at the time of first registration in the graduate school, applies to work to be credited toward degrees for students in combined programs.

DEPARTMENTAL RESEARCH INTERESTS

The graduate course offerings and the list of graduate faculty for each department offering graduate work under the administration of the dean of the School of Basic Sciences are given in the appropriate school sections of this bulletin. The pages on which these may be found and brief statements of the research interests of the faculties of the departments follow:

School of Basic Sciences

1. Department of Anatomy page 111

Research Interests: ultrastructural studies of ovary, oviduct, cervix, and uterus; maternal accommodations to implantations; experimental embryology; teratological aspects of drug metabolism; control of corpus luteal life span; uterine glycogenesis; comparative neuroanatomy and CNS connectivity; neuroendocrinology; anatomical substratum of analgesia; structural and functional studies of the cerebral vasculature and CNS trauma; neuroanatomy and neuropsychology of eye movement; eye differentiation; synaptology; maturation in central nervous system; renal transplantation rejection; ontogeny of the immune system; immunohematology; immune dysfunction and malignancy; carcinogenesis; oxyhemoglobin affinities; and cytosomes in alveolar cells.

2. Department of Biochemistry page 112

Research Interests: enzyme chemistry; mitochondrial function; cellular control mechanisms; isozymes; protein structure and function; macromolecular structure; genetic control of development and differentiation; nuclear proteins; somatomedin; mechanism of growth hormone action; neurochemistry; intracellular protein catabolism; protein and nucleic acid metabolism; steroid and phospholipid metabolism; fluorescence, nuclear magnetic resonance; X-ray crystallography and other aspects of physical biochemistry.

3. Department of Biophysics page 112

Research Interests: structures and function of proteins and nucleic acids; biophysical characterization of macromolecules; effects of ionizing and nonionizing radiation on the eye and other organs; photobiology; biophysical characterization of artificial and biological membranes; structural and functional analysis of subcellular organelles of normal and pathological tissues.

4. Department of Biostatistics page 113

Research Interests: epidemiological and operational research in health care; determinants of demand in primary care; analysis of observational studies; analysis of survival data with concomitant information; response surface design and analysis; linear statistical models; non-parametric function estimation and related areas; pattern recognition; design and analysis of clinical trials; multivariate analysis; analysis of survival data-survival curves; nonparametric statistics; determinants of physician utilization; and epidemiological studies.

5. Department of Human Genetics page 115

Research Interests: human cytogenetics; somatic cell genetics; biochemical genetics and studies of gene action in pro- and eukaryotes; human population and quantitative genetics, genetic linkage studies; the delineation of new genetic syndromes; identification and treatment of metabolic diseases; carrier detection; genetic counseling; studies of twins and their families; studies of hereditary deafness; behavior genetics.

6. Department of Microbiology page 115

Research Interests: antibiotics and chemotherapy; biophysical characterization of biological macromolecules; animal virology; cellular and tumor immunology; host-parasite relations in bacterial and viral diseases; microbial biochemistry, ecology, genetics, and physiology; molecular biology; membrane transport; cellular differentiation; X-ray crystallography; parasitology; cellular oncology; cancer chemotherapy; immunopotentiality; genetic mechanisms and regulation of prokaryotic and eukaryotic cells; mycology; immunobiology; and medical bacteriology.

7. Department of Pharmacology page 116

Research Interests: Drug metabolism; pharmacodynamics; psychopharmacology; cardiovascular pharmacology; clinical pharmacology; toxicology; drug evaluation; and biochemical and central nervous system pharmacology.

8. Department of Physiology page 118

Research Interests: Motor and sensory systems; behavior; endocrine regulation of reproduction and thyroid systems; gastrointestinal secretory systems; oxygen transport and delivery systems; topics in general physiology including mechanisms of solute transport in epithelial and synthetic membrane systems; and excitation-contraction coupling in cardiac, skeletal, and smooth muscle.

School of Medicine

Department of Pathology page 118

Research Interests: biochemical and clinical applications of enzyme and protein immobilization, clinical enzymology, techniques in clinical chemistry, membranes in the pathogenesis of muscular dystrophy, mechanism of complement activation, oral carcinogenesis, mycoplasma-bacterial interactions, bacterial L-forms, immunohematology, immunotherapy of cancer, cerebral microcirculation, blood substitutes, leukemia, sickle cell disease, trace metal metabolism in tumors, drug distribution, diagnostic immunoassays, inflammation, fever, neuro-chemistry and ultrastructure of brain, infectious diseases, paleopathology, and diagnostic virology.

School of Pharmacy

1. Department of Pharmaceutical Chemistry . . . page 217

Research Interests: synthesis and biological evaluation of new compounds, determination of relationships between chemical structure and biological activity, studies on modes of drug action, theoretical studies on structure-activity relationships of drugs including the use of molecular orbital theory and molecular connectivity, rational design of new drugs, studies on drug metabolism. Drug classes under investigation include

antineoplastics, hypocholesteremics, hypoglycemics, hypotensives, neurotransmitters, antagonists, peptide antibiotics, psychotropic agents, urolithiasis inhibitors.

2. Department of Pharmacy and Pharmaceutics . . page 218

Research Interests: bioavailability studies, factors governing release of drugs from solid dosage forms, micellar nature of drug solutions, drug-protein binding interactions, effects of saturated and competitive metabolism on pharmacokinetics, clinical pharmacokinetics including computer modeling of pharmacokinetics in man and use of individual pharmacokinetic parameters in optimizing dosage regimens, development of analytical methodology for drugs in biological fluids, isolation of new drugs from natural sources, design and management of pharmacy-related health service systems, drug prescribing and utilization studies.

INTEGRATED CURRICULUM— SCHOOL OF MEDICINE

All basic sciences departments are involved in teaching the integrated curriculum in the School of Medicine. Lectures, conferences, and laboratories are offered during the M-I year, principally by the Departments of Anatomy, Biochemistry, Biostatistics, Genetics, and Physiology. Microbiology and pharmacology are taught mainly in the M-II year. In addition, the basic sciences departments offer electives which are available to medical students throughout their curriculum but primarily in the fourth year.

INTERDEPARTMENTAL BASIC SCIENCES COURSES

Certain courses are taught by two or more departments.

BAS 550-551. Basic Science Core Curriculum for Postgraduate Dental Students. 3 lecture hours. 3 credits. I and II. This course is designed to provide the postgraduate dental student with the educational experience in the basic science required for the successful completion of his/her specialty training program. Selected lectures in the basic science areas related to dentistry are presented and are supplemented by assigned articles.

COURSES OF INSTRUCTION

Department of Anatomy (ANA)

Professors: Jollie (Chairman); Astruc; Burke, G. (Dentistry)*; Harris; Seibel

Emeriti Professors: Hegre; Ingersoll

Associate Professors: Ching; Geeraets, (Ophthalmology); Goldberg; Haar; Johnson; Jordan; Leichnetz; Owers; Povlishock;

*Department in parenthesis indicates joint appointment.

Quattropani; Szakal

Adjunct Associate Professor: Sheppard

Assistant Professors: East; Jackson; Krieg; Lieb;

McClung; Mong; Pakurar; Sholley; Spencer

Instructor: Craig

301 Principles of Human Anatomy (Primarily for pharmacy students). 3 lecture and 3 laboratory hours. 4.5 credits. I. The structure of the human body is surveyed by organ systems which are studied at several levels of organization. Emphasis is placed on basic concepts and their application to various body components.

302 General and Oral Histology (Dental Hygiene). 3 lecture hours. 3 credits. II. A lecture course in the microscopic anatomy of general body tissues and of the oral cavity. With ANA 502 for two months.

303 Embryology (Physical Therapy). 1 lecture hour. 1 credit. A study of the development of the form of the human body emphasizing structural and developmental relationships between the musculoskeletal and nervous systems.

305 General and Oral Microanatomy and Embryology (Dental Hygiene). 3 lecture hours. 3 credits. II. A study of the normal tissues and organs of the human body at the microscopic level, with emphasis on the histological organization and development of the oral cavity.

501 Gross Anatomy (Dentistry). 4.5 lecture and 8 laboratory hours. 8.5 credits. I. A systematic dissection and study of the human body with clinical correlation and emphasis on the head and neck.

502 Microscopic Anatomy (Dentistry). 3 lecture and 6 laboratory hours. 6 credits. I. A study of the normal tissues and organs of the human body at the microscopic level, with emphasis on the histological organization and development of the oral cavity.

503 Neuroanatomy (Dentistry). 1.5 lecture hours. 1.5 credits. I. This course provides the student with a wide exposure to the field of neuroanatomy. The structure and connections of the brain and spinal cord are stressed so that the student is prepared to deal with physiological, pharmacological, and clinical aspects presented in other courses.

507 Head and Neck Anatomy (Dental Hygiene). 3 lecture and 1 laboratory hour. 3.5 credits. I. An overview of head and neck anatomy with emphasis on oral and neck anatomy with emphasis on oral structures. Lectures and laboratory with ANA 501 for one month.

509 Gross Anatomy. 3 lecture and 18 laboratory hours. 12 credits. I. A graduate level, in-depth study of human anatomy at the gross level. Though intended primarily for graduate students in anatomy, this course will prove useful for all graduate students desiring a thorough knowledge of human gross anatomy.

510 Neuroanatomy. 4 lecture hours. 4 credits. II. An in-depth study of the structure, connections, and function of the central nervous system. ANA 510 and 512 constitute a complete graduate level neuroanatomy course.

512 Neuroanatomy Laboratory. 4 laboratory hours. 2 credits. II. Prerequisite: ANA 510 (concurrently or equivalent.) A complement of ANA 510 which trains

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the student to study the central nervous system through the use of literature and actual gross and histological preparations.

513 Advanced Studies in Anatomy. 3 lecture and 6 laboratory hours. 6 credits. An in-depth course in specific areas of anatomy: histology, gross anatomy, and neuroanatomy.

514 Microscopic Anatomy. 3 lecture and 6 laboratory hours. 6 credits. II. A graduate level, in-depth study of human anatomy at microscopic and fine structural levels.

516 Techniques in Electron Microscopy. 2 lecture and 6 laboratory hours. 5 credits. II. Prerequisite: ANA 501. Students are taught the basic techniques and theories of ultramicrotomy and electron micrography, as well as the use of the electron microscope.

590 Anatomy Seminar. 1 lecture hour. 1 credit. I, II. This course is a joint effort by the faculty and graduate students of the Department of Anatomy. Reviews and reports of original research and significant advances in the basic medical sciences are submitted.

690 Research in Anatomy. 1-15 credits. I, II, S.

Department of Biochemistry (BIC)

Professors: Martinez-Carrion (Chairman); Banks; Collins; Higgins; Liberti; Rogers; Rothberg (Dermatology); Scott (Hematology)¹

Emeriti Professors: Abbott; Forbes

Associate Professors: Bond; Brandt; DeVries; Diegelmann (Surgery); Franson (Biophysics); Guzelian (Medicine); Kline; Schirch; Shelton; Van Tuyle

Assistant Professors: Chlebowsky; Evans; Grogan Peterson; Shaw; Wright

302 Biochemistry (Pharmacy). 4 lecture and 3 laboratory hours. 5 credits. II. Prerequisite: PHC 301 or equivalent. A presentation of structural biochemistry, intermediary metabolism, physiological chemistry, and nutrition as a part of the fundamental background of modern pharmacy.

304 Biochemistry (Undergraduate). 3 lecture hours. 3 credits. II. Prerequisites: CHE 301-302 or equivalent. A presentation of structural biochemistry, intermediary metabolism, and nutrition. Undergraduate students desiring biochemistry laboratory with lectures should enroll in BIC 302.

501 Biochemistry (Dentistry). 4 lecture and 2 laboratory hours. 5.5 credits. I. Prerequisite: organic chemistry, three credits of physical chemistry, or permission of instructor. A presentation of structural biochemistry, intermediary metabolism, physiological chemistry, and nutrition as part of the fundamental background of modern dentistry.

503-504 General Biochemistry. 3 lecture hours. 3 credits. I and II. Prerequisite: eight credits of organic chemistry. Both semesters are required for the comprehensive introductory course for graduate students. BIC 503 is prerequisite for BIC 504.

505-506 Experimental Biochemistry. 4 laboratory hours. 2 credits. I and II. Prerequisite: BIC 503 (or con-

current) or equivalent, quantitative chemistry. Laboratory work, including theory and practice of advanced biochemical research methods.

510 Current Trends in Biochemistry. 2 lecture hours. 2 credits. I, II. Prerequisite: BIC 503-504. A study and literature review of common and complex biochemical substances using recent research methodology.

590 Biochemistry Seminar. 1 credit. I, II. Reports on recent biochemical literature and research by students and staff.

601 Lipids. 3 lecture hours. 3 credits. I. (Alt. yrs. '81-'82.) Prerequisite: BIC 503-504. Chemical basis of lipid structure determination and analysis. Treatment of methods for the analysis of lipid structures, micelles, membranes, and lipoproteins. Selected topics of lipid metabolism.

602 Physical Properties of Macromolecules. 3 lecture hours. 3 credits. II. Prerequisite: 503-504 and physical chemistry. Physico-chemical approaches to the determination of the structure and conformation of macromolecules.

603 Nutritional Biochemistry. 3 lecture hours. 3 credits. I. (Alt. yrs. '82-'83.) Prerequisite: permission of instructor. Study of chemistry and mechanisms of vitamins and functions of essential elements. Experimental and practical aspects of nutrition.

604 Enzymology. 3 lecture hours. 3 credits. II. (Alt. yrs. '81-'82.) Prerequisite: BIC 503-504. Physical and chemical properties and mechanisms of action of enzymes. Treatment of chemical catalysis, enzyme kinetics, and correlation of enzyme structure to mechanisms.

606 Biochemical Control Processes. 3 lecture hours. 3 credits. I. (Alt. yrs. '82-'83.) Prerequisite: BIC 503-504 and permission of instructor. An advanced course on aspects of control mechanisms at the molecular level.

690 Research in Biochemistry. 1-15 credits. I, II, S. Research leading to the M.S. or Ph.D. degree and elective research projects for students in the professional schools.

Department of Biophysics (BIP)

Professors: Weglicki (Chairman); Barnes (Surgery)¹; Cleary; Eckberg (Medicine); Merz (Radiology); Rao (Radiology)

Emeriti Professor: Ham

Associate Professors: Clarke; Epstein; Franson; Owens

Assistant Professors: Pang; Ruth; Wist

Instructor: Beckman; Knauer; Low; Rittgers;

Spanier

313 Introduction to Medical Electronics and Instrumentation. 2 lecture and 2 laboratory hours. 3 credits. I. A survey of the electronic principles of medical and clinical instrumentation; intended as an undergraduate introductory core course for allied health students in medical technology, physical therapy, etc., to the field of electronic instrumentation. Topics include electronic fundamentals, instrumentation design theory, transducers, troubleshooting, and microprocessor applications. Recitations and laboratory sessions are

designed to accommodate specific disciplines in allied health. Open to all allied health students.

500 Introduction to Biophysics. 4 lecture hours. 4 credits. I. Required course for first-year graduate students in biophysics. Principles of atomic and nuclear physics, spectroscopy, ions in solution, molecular structure, thermo-dynamics, and principles of interaction of physical with biological systems are stressed. Sources of radiation, units of measurement of radiation and radioactivity, detection of radiation, and basic principles of radiological health are also considered.

501 Radioisotopes. 3 lecture and 2 laboratory hours. 4 credits. I. Elements of nuclear physics, statistics of counting, radiation dosimetry, health physics, radiation protection, tracer, radiographic techniques, and liquid scintillation and gamma counting techniques.

502 Applied Electronics in Biology and Medicine. 2 lecture and 2 laboratory hours. 3 credits. II. (Alt. Yrs. '81-'82) Fundamental principles and applications of electronics as related to biological sciences.

504 Computer Technology in the Biomedical Sciences. 2 lecture and 2 laboratory hours. I. Research and clinical applications of automatic and semi-automatic data acquisition. Describes the functions and operations of microcomputers in detail. Development and assembly of microcomputer systems for biomedical application using an educational kit. Students can assemble their own microcomputer driven systems in the laboratory.

510 Advanced Biophysics 4 lecture hours. 4 credits. I and II. (Alt. yrs. '81-'82). Prerequisite: thermodynamics and physical chemistry, calculus, and elementary physics. Introduction to statistical mechanics and quantum mechanics.

522 Circuit Design and Analysis. 3 lecture hours. 3 credits. II. (Alt. yrs. '81-'82.) Prerequisite: college physics, calculus. Emphasis is placed on the understanding in depth of the analysis and design of electronic circuits. Designed to meet the needs of quantitatively oriented students.

523 Introductory Radiation Biophysics. 5 lecture hours and 10 laboratory hours. 4 credits. S. This introductory course exposes the student to the basic physics behind the entire spectrum of radiation producing and radiation measuring equipment used in clinical medicine. Equipments discussed includes X-ray tubes, image intensifiers, intensifying screens, X-ray films, radionuclide imaging devices, linear accelerators, radionuclide teletherapy units, computerized emission and transmission scanners, etc. Radiation safety features involved in their design and use are also considered. Each session consists of a brief introductory lecture followed by an extensive laboratory. Each topic involves a 1-hour lecture and 2-hour laboratory, 5 days a week for 6 weeks during the summer semester.

524 Physics of Diagnostic Radiology. 3 lecture and 2 laboratory hours. 4 credits. I and II. Covers in depth the physical principles behind the use of radiation for medical diagnostic and therapeutic purposes. Topics covered include image forming devices, analysis and optimization of image quality, linear accelerators, betatrons, and sealed sources of ionizing radiation. Radiation dose measurement and treatment planning

techniques are also considered. Each topic is developed with lecture and laboratory components in each semester.

525 Irradiated Biological Systems. 3 lecture hours. 3 credits. II. An advanced level course designed to provide information about the structure, properties, and biological activity of a class of agents that are mutagenic, carcinogenic, and lethal. These include ionizing and nonionizing radiation, chemical mutagens, and clastogens (chromosome breaking). The significant physics and significant chemistry will be examined. The biological responses will be considered in detail. Biological damage, repair of damage, and the expression of unrepaired and misrepaired damage will be presented in systems spanning isolated biological material, cell organelles, prokaryotes, and in vivo human responses. Consideration will also be given to cell survival, in critical target, repair processes, chromosomal and other genetic events, physiological phenomena, development effects, immune system alterations, carcinogenesis, medical uses and ecology.

590 Seminar. 1 lecture hour. 1 credit. I, II. Research reports from members of the staff, discussion of special topics, and lectures by visiting speakers. Participation and at least one presentation each semester by each registered graduate student.

601 Biophysical Principles. 4 lecture hours. 4 credits. I and II. (Alt. yrs. '81-'82). Prerequisite: BIP 500. First semester includes the basic mathematical theory of X-ray crystal structure analysis including techniques and methods of solving structure of crystals. Detailed discussion of the crystalline structure of several biological molecules. Second semester will include in-depth discussions of the theories covering the techniques used in studying biological macromolecules in solution.

602 Molecular Biology. 4 lecture hours. 4 credits. II. Prerequisite: undergraduate biology and/or chemistry. Chemistry of nucleic acids, protein synthesis; molecular genetics and control; membrane biophysics; molecular basis of disease.

604 Biophysical Techniques. 3 lecture and 2 laboratory hours. 4 credits. II. The principles and applications of commonly used methodologies in basic research and radiobiology will be discussed in detail. Centrifugation, chromatography, electrophoresis, and spectroscopy will be covered as well as the techniques of radiation treatment planning, dose calculations, and calibration of imaging equipment used in nuclear medicine and radiation therapy.

690 Research in Biophysics. 1-15 credits. I, II, S. Opportunities are available for graduate students to conduct original investigations under the supervision of members of the staff in molecular biology of myocardial infarction and cell injury, lysosomes of phagocytic cells, diagnostic and therapeutic radiology, radiobiology, biological effects of thermal and laser radiation, and other areas of quantitative research on living systems at the molecular level.

Department of Biostatistics (BIS)

Professors: Kilpatrick (Chairman); Carter; Choi
Minton (Institute of Statistics)
Adjunct Associate Professor: Flora

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Assistant Professors: Hamer (Psychiatry); Smith
Adjunct Assistant Professor: Peace
Instructors: Boyle; Campbell

511-512 Methods of Biostatistical Analysis. 3 lecture hours. 3 credits. (This is a two-semester sequence; however, BIS 511 may be taken without taking BIS 512.) Basic concepts of statistical methods, statistical measures, variation, distributions, tests of significance, simple nonparametric tests, analysis of variance, concepts of experimental design, regression, correlation; analysis and design of factorial experiments, Latin squares, and others; effects of blocking fractional replication, and confounding.

515 Biostatistical Data Management. 1 lecture hour. 1 credit. I. Concepts of data management are dealt with. Methods of data collection, editing, and validation are reviewed. Importance of data file arrangement and maintenance is addressed. Research protocols are critically reviewed.

516 Biostatistical Consulting. 1 lecture hour. 1 credit. II. The principles dealing with the basic art and concepts of consulting in biostatistics. The non-statistical course discusses role, responsibilities of biostatisticians, relationship between clients and consultants, method of writing reports, etc.

521 Biostatistical Principles of Health Care Information. 3 lecture hours. 3 credits. I. (For graduate students in nursing and physical therapy; others with consent.) A basic introduction to the nature, use, and analysis of hospital and health-care statistics. The collection, presentation, tabulation, and interpretation of statistical data. Classification of measurements and observations, properties of rates, ratios, and indices. Some typical statistical distributions. The use of measure of location and dispersion to describe a distribution. 'Normal' variation and outliers. The elementary laws of probability. The concept of a sampling distribution, the standard error of the mean and confidence limits in large and small samples, and tests of significance.

524 Biostatistical Computing. 3 lecture hours. 3 credits. II. Prerequisite: BIS 511, 521, or equivalent. The Statistical Analysis System (SAS) is both a powerful computer language and a large collection of statistical procedures. Students will learn how to create and manage computer data files. Techniques for thorough examination and validation of research data will be presented as the initial step of a complete, computerized analysis. Descriptive statistics will be computed and statistical procedures such as t-tests, contingency tables, correlation, regression, and analysis of variance then applied to the data. Special attention will be paid to the applicability of each procedure. Students will be encouraged to analyze their own or typical data from their discipline.

537 Sampling. 3 lecture hours. 3 credits. I. (Alt. yrs. '82-'83.) An introduction to the theory and methods of sampling and sample surveys including random, stratified, systematic, and probability sampling, estimation of sample sizes, ratio and regression estimates, and analytical survey.

538 Epidemiology and Population Research. 3 lecture hours. 3 credits. I. (Alt. yrs. '81-'82.) Sources of vital

statistical data—review of the binomial, Poisson, negative binomial distributions as they apply to vital events; summary statistics, rates, ratios, and others; direct and indirect standardization; abridged life tables; principles of epidemiology; interpretation of analytical surveys; problems in the analysis of observational studies in health care and public health; causality; inferences; path analysis; modeling; and crucial observations.

541-542 Theory of Probability and Biostatistical Inference. 3 lecture hours. 3 credits. (This is a two-semester sequence. However, BIS 541 may be taken without taking BIS 542.) Discrete and continuous probability distributions, moment generating functions and change of variables; limit theorems and laws of large numbers; Bayesian, maximum likelihood, and estimators; Neyman-Pearson and likelihood ratio criteria for testing simple and composite hypotheses.

546 Linear Biostatistical Models. 3 lecture hours. 3 credits. II. Prerequisite: STA 513. Distribution of quadratic forms under normal theory; general linear model of full rank and less than full rank, Gauss-Markov theorem; estimability.

547 Nonparametric Statistics. 3 lecture hours. 3 credits. I. (Alt. yrs. '81-'82.) Theory of distribution-free and order statistics with emphasis on estimation and hypothesis testing.

590 Biostatistics Seminar. 1 lecture hour. 1 credit. I, II. Talks by the students, faculty, and visitors describing recent research or reviewing topics of mutual interest.

600 Special Topics in Biostatistics. Lecture and laboratory hours by arrangement. 1-4 credits. I, II. The faculty (including visiting and adjunct professors) from time to time offer courses in newly developing areas of statistics and biometry. For information, contact the department chairman.

641 Advanced Biostatistical Inference. 3 lecture hours. 3 credits. I (Alt. yrs. '81-'82.) Prerequisite: STA 514. Concepts of classical decision theory, the Bayesian approach to decision theory, the use of prior information in arriving at decision procedures, empirical Bayesian tests of hypotheses, estimation of parameters, and other applications. In the second half of this course, the theories of estimation and hypothesis testing introduced in STA 514 will be extended.

642 Methods of Multivariate Analysis. 3 lecture hours. 3 credits. II. (Alt yrs. '81-'82.) Prerequisite: BIS 511, 546. Introduction to the theory and methods of analysis of multivariate data; generalization of standard univariate techniques to the multivariate, union/intersection, and likelihood ratio tests; multiple, partial, and canonical correlation; principle component analysis; discriminant analysis.

650 Design and Analysis of Response Surface Experiments. 3 lecture hours. 3 credits. II. (Alt. yrs. '80-'81.) Prerequisite: BIS 511 and 546. Philosophy, terminology, and nomenclature for response surface methodology, analysis in the vicinity of the stationary point, canonical analyses, description of the response surfaces, rotatability, uniform information designs, central composite in design, and modern design criteria.

690 Research in Biostatistics. 1-15 credits. I, II, S. For additional related courses, see offerings in mathematical sciences and statistics on the Academic Campus.

Department of Human Genetics (GEN)

Professors: Nance (Chairman); Brown, J.; Mamunes (Pediatrics); Merz (Radiation Biology); Young (Pediatrics)

Distinguished Professor: Eaves

Associate Professor: Townsend

Assistant Professors: Boughman; Corey; Grieve;

Holmes (Microbiology); Redwine (Obstetrics/Gynecology); Wolf

501 Introduction to Human Genetics. 3 lecture hours. 3 credits. I. An introductory course in the principles of inheritance with particular reference to genetic variation in man.

504 Biochemical Genetics. 3 lecture hours. 3 credits. II. Prerequisite: biochemistry. Mechanisms of gene action as illustrated by inherited biochemical defects in man.

511 Human Cytogenetics. 3 lecture hours. 3 credits. II. Prerequisite: GEN 501 or equivalent. A comprehensive survey of the fundamentals of human cytogenetics including mitosis, meiosis, chromosome replication, metaphase chromosome structure, numerical and structural chromosome aberrations, human population cytogenetics, genetic constitution of human chromosomes, and chromosome evolution. Student participation will be through classroom discussion, informal topic presentations, and written literature reviews.

516 Population Genetics. 3 lecture hours. 3 credits. II. genetic and ecological factors affecting normal and abnormal variation within and between populations of organisms, especially man.

518 Methods in Human Population Genetics. 3 lecture hours. 3 credits. I. Data analysis and discussion of methods including segregation analysis and linkage. Topics covered will include inbreeding, ascertainment, and genetic epidemiology.

519 Quantitative Genetics. 3 lecture hours. 3 credits. II. Methods of analysis of quantitative traits in families and populations.

531 Dental Genetics. 1 lecture hour. 1 credit. I. The basis of inheritance and variation in man, including simple and complex modes of inheritance, the nature of mutations, human chromosomal aberrations, variation in proteins and antigens, genetic aspects of some syndromes, and birth defects.

590 Genetics Seminar. 1 lecture hour. 1 credit. I and II. Selected topics in genetics presented by students and staff.

600 Clinical Genetics. 1 lecture and 2 laboratory hours. 2 credits. I and II. Prerequisite: GEN 501 or equivalent. Practical experience in the genetic counseling clinic and on ward rounds. Includes collection and analysis of family histories, genetic counseling, and introduction to genetic nosology.

650 Special Topics in Genetics. 1-4 credits. I and II. Lectures, tutorial studies, library assignments in selected areas of advanced study, or specialized laboratory pro-

cedures, not available in other courses or as part of the research training.

690 Genetics Research. 1-15 credits. I, II, S. Research leading to the M.S. or Ph.D. degree; elective research projects for students in the professional schools.

Department of Microbiology (MIC)

Professors: Bradley (Chairman); Coleman (Animal Resources); Dalton (Pathology); Duma (Medicine); Hench (Pathology); Kaplan (Surgery); Madge (Pathology); Regelson (Medicine); Ruddy (Medicine); Shadomy, H. J.; Shadomy, S. (Medicine); Welshimer

Emeriti Professors: Nelson; Reid

Associate Professors: Formica (Associate Dean of Basic Sciences); Hsu; Hylemon; John; Keefe; Loria; Macrina; Mohanakumar (Surgery); Morahan; Munson (Pharmacology); Murray; Phibbs; Tew

Adjunct Associate Professors: Lambert; Tankersley; Tinnel

Assistant Professors: Adler (Medicine); Bick; Cabral; Conrad; Cross (Pathology); Holmes; Littman (Medicine); Schenkein (Dentistry); Shipley

Adjunct Assistant Professor: Miller

Instructors: Cabral, F.; Roehl

365 Infection and Immunity (Nursing and Dental Hygiene). 2 lecture and 2 laboratory hours. 3 credits. I. A study of infectious diseases of man with emphasis on the distribution properties and roles of pathogenic microorganisms and the varied responses of the host. Principles of prevention, control, and chemotherapy of infectious diseases are major components of the course. Microbiological procedures that relate to nursing and dental hygiene practice are demonstrated, practiced, and evaluated in laboratory exercises and conferences.

401 Microbiology. 3 lecture and 3 laboratory hours. 4.5 credits. I. Prerequisite: BIC 302 or equivalent. A study of the fundamental principles of microbiology with special emphasis on those aspects of the subject that are of importance in the control of the disease state. Offered in the School of Pharmacy and open primarily to pharmacy students in the junior year; others by permission of the instructor.

502 Animal Virology. 3 lecture and 4 laboratory hours. 5 credits. II. A comprehensive introduction to animal virology emphasizing the molecular aspects of viral replication, the cellular responses following viral infection, and host viral infection.

504 Fundamentals of Microbiology. 3 lecture hours. 3 credits. I. A comprehensive survey of the fundamentals of microbiology including studies of cell composition and structure, growth and cell division, metabolism and its control, microbial genetics, taxonomy, and comparative review of the major groups of microbes including viruses, bacteria, fungi, algae, and protozoa.

506 Immunobiology. 3 lecture and 4 laboratory hours. 5 credits. II. A survey of immunobiology as a total host response to foreign agents, covering the nature of antigens and antibodies, antigen-antibody reactions, immunocompetent cells, allergic reactions, tumor im-

munology, transplantation immunology, and immunogenetics. The laboratory is designed to provide students with practical experience, using basic immunologic techniques which may be applicable in research projects and diagnostic laboratories.

507 Medical Mycology. 2 lecture and 4 laboratory hours. 4 credits. I. A comprehensive study of fungi pathogenic to man with an emphasis on their properties, pathogenesis, and laboratory diagnosis.

508 Cell Physiology and Metabolism Laboratory. 3.5 lecture and 18 laboratory hours. 4 credits. S. (Six weeks). Prerequisite: MIC 504 or BIC 503. Laboratory exercises in those techniques and methods in common use in bacterial physiology.

510 Medical Parasitology. 2 lecture and 4 laboratory hours. 4 credits. II. An introduction to the animal parasites of man with emphasis on both the biological and the medical aspects of the host-parasite association.

513 Infections and Immunity (Dentistry). 1.5 lecture hours. 1. 2 lecture and 4 laboratory hours. II. 5.5 credits. A lecture and laboratory study of the disease producing microorganisms of man with special emphasis on the roles of microorganisms in oral diseases and related topics that are of importance in dentistry.

515 Pathogenic Bacteriology. 2 lecture and 4 laboratory hours. 4 credits. I. A survey of the bacteria that cause infections in man with an emphasis on their properties, pathogenesis, and laboratory diagnosis.

517/PMC 517 Biology of Cancer. 3 lecture hours. 3 credits. I. A goal-oriented presentation of neoplasia pertaining to: the cancer cell, tumor host interrelationships, carcinogenesis, immunology of cancer, tumor growth and cell kinetics, common cancer related to age and sex, basic and practical concepts of therapy, and the role of the various medical and paramedical personnel involved in cancer.

590 Microbiology Seminar. 1 lecture hour. 1 credit. I, II. Presentation and discussion of research reports and topics of current interest to the departmental seminar or special group seminar.

604 Cell Physiology and Metabolism. 3 or 5 lecture hours. 3 or 5 credits. II. Prerequisite: MIC 504. An advanced course on the physiology and metabolism of prokaryotic and eukaryotic cells with some emphasis on the regulation of cell functions. Lectures and class discussions will focus on current scientific literature including review articles and original research papers.

650 Special Topics in Microbiology. 1-4 credits. I or II. Lectures, tutorial studies, and/or library assignments in selected areas of advanced study not available in other courses or as part of the research training.

653 Molecular Genetics and Gene Expression. 3 lecture hours. 3 credits. Prerequisite: BIC 502-503 and BIO 310 or equivalent, or permission of instructor. Examination of fundamental and current aspects of gene structure, organization, and expression at the molecular level, and both prokaryotic and eukaryotic systems will be viewed from the perspective of the gene. Topics to be covered will include gene organization and fine structure, and current methods of analysis, molecular control

mechanisms, the nature of mutation, microbial systems of genetic exchange, bacterial virus genetics, DNA insertion elements, plasmids and transposons, genetic engineering, control of macromolecular synthesis, recent developments in gene overlap, message splicing, and molecular mechanisms of recombination.

685 Advanced Immunobiology. 1-3 lecture hours. 1-3 credits. I. Lectures, seminars, and conferences on basic and clinical immunobiology. Topics have included tumor immunology, cell interactions in the immune response, genetics of the immune response, mechanisms of host-defense and membrane receptors in immunology and neoplasia. Open primarily to residents, medical students, and graduate students with immunology background such as MIC 506.

690 Research in Microbiology. 1-15 credits. I, II, S. Research leading to the M.S. or Ph.D. degree and elective research projects for other students.

Department of Pharmacology (PMC)

Professors: Harris (Chairman); Blanke (Pathology)¹; Borzelleca; Bradley (Microbiology); Dewey; Fallon (Medicine); Goldman (Medicine); May; Narasimhachari (Psychiatry); Rosecrans; Rubin; Wasserman (Medicine); Watts; Woods
Adjunct Professor: Freund (Medicine)
Emeriti Professors: Ambrose; Larson
Associate Professors: Aceto; Balster; Bowe; Egle; Freer; Guzelian (Medicine); Lamb (Medicine); Munson; Putney
Adjunct Associate Professors: Fagan; Friedman; Scala; Tardiff
Assistant Professors: Carchman; Chau; Day; Diasio (Medicine); Ellis; Freedlender (Medicine); Gewirtz (Medicine); Hayes; Laychock; Martin; Patrick; Kallman; Wright
Adjunct Assistant Professors: Etkin; Franko

300 Drugs and Their Actions. 3 lecture hours. 3 credits. I. This is a survey course in pharmacology which includes all the major classes of drug action. Each class is discussed in relation to mechanism of drug action and therapeutic application. Open to all junior and senior undergraduate and special students.

391 Health Sciences I. 4 lecture hours. 4 credits. I. Prerequisite: MIC 365. Primarily for nursing students. Integrates and correlates pathophysiology, pharmacology and therapeutics, and pathogenetics, in the disease state. Areas of discussion include water and electrolyte imbalance, acid-base imbalance, fever, pain, edema formation, shock, and blood alterations.

392 Health Sciences II. 3 lecture hours. 3 credits. II. Prerequisite: PMC 391. An integration of pathophysiology, pharmacology, therapeutics, and pathogenetics; more specific pathologies such as autoimmune disease infection; allergy; neoplasia; cardiovascular, hematopoietic, musculoskeletal, nervous system, pediatric, geriatric, and pathophysiology; and metabolic and nutritional disease.

403 Principles of Pharmacology (Pharmacy). 3 lecture and 2 laboratory hours. 4 credits. I. The basic principles of pharmacology that apply to drugs in general and a consideration in depth of the biotransformation and

mechanisms of action of these agents. Drugs acting on the autonomic nervous system, chemotherapeutic agents, and drugs affecting the gastrointestinal tract are covered.

404 Pharmacological Agents (Pharmacy). 4 lecture hours. 4 credits. II. Major classes of therapeutic agents, including specific drugs, discussed in detail. Includes chemotherapeutic, cardiovascular, central nervous system, and endocrine agents. (This is a continuation of PMC 403.)

413 Pharmacological and Clinical Correlations. 3 lecture hours. 3 credits. I. Primarily for nursing students. This course integrates and correlates clinical experiences with the effect of drugs on biochemical, physiological, and pathological systems.

441 Pharmacology (Dental Hygiene). 5 lecture hours. 5 credits. I. A didactic course designed to emphasize the principles of pharmacology and pain control and the rationale of drug actions, uses, and adverse effects.

448 Drug Dependence. 3 lecture hours. 3 credits. II. Prerequisite: junior or senior standing or with permission of instructor. A broad survey course in problems of drug use and abuse intended primarily for students in the biomedical sciences, social sciences, or education. It will focus on the pharmacology of psychoactive drugs as well as a study of the psychological and sociological factors in drugtaking behavior, rehabilitation methods, and drug abuse prevention. This course may not be taken in lieu of any pharmacology offerings in the professional schools on the MCV Campus. For graduate credit see PMC 548.

509 General Pharmacology and Pain Control. 4 lecture hours. 4 credits. I, II. The basic principles of pharmacology, including mechanisms of absorption, distribution, biotransformation, elimination; dose-response relationships, drug-receptor interactions are presented followed by detailed discussions of the various classes of drugs, with special consideration given to mechanisms of action and untoward effects. An introduction to the fundamentals of toxicology. Drugs used in dentistry to control pain and related symptoms are discussed in detail. These include local anesthetics, general anesthetics, analgesics, tranquilizers, and sedatives.

511 General Pharmacology and Pain Control. 2 lecture and 1 laboratory hour. 2 credits. II. A continuation of PMC 509.

515 Pharmacology for Nurse Anesthetists. 3 lecture hours. 3 credits. I. The basic principles of pharmacology including mechanisms of absorption, distribution, biotransformation, elimination, dose-response relationships, drug and receptor interactions are presented followed by a detailed discussion of autonomic, cardiovascular, and renal pharmacology as it relates to nurse anesthesia.

516 Pharmacology for Nurse Anesthetists. 3 lecture hours. 3 credits. II. A detailed presentation of the pharmacology of classes of drugs used by nurse anesthetists including agents with primary therapeutic effect on the brain and endocrine glands. General and regional anesthetics will be emphasized.

517/MIC 517 Biology of Cancer. 3 lecture hours. 3 credits. I. A presentation of the basic aspects of neoplasia with specific blocks devoted to pathology, biochemistry, carcinogenesis, anticancer drugs, and immunology. This is an interdisciplinary course offered primarily by the Departments of Pharmacology, Microbiology, Biochemistry, and Pathology.

520 Introduction to Pharmacological Research. 1-10 credits. I, II. Prerequisite: permission of instructor. Research in pharmacology laboratories for beginning graduate students.

535 Principles of Toxicology. 4 lecture hours. 4 credits. I. The basic principles of the various aspects of toxicology are presented. Correlations of functional, morphological, carcinogenic, teratogenic, and mutagenic responses with biochemical and toxicological lesions are attempted. Environmental and industrial toxicology, food and agricultural chemicals, pertinent legislation, and principles of forensic toxicology will also be covered.

536 General Pharmacology. 4.5 lecture hours. 4.5 credits. II. Prerequisite: PIO 504 or permission of instructor. A comprehensive course in pharmacology for graduate students. The mechanisms of action of major classes of pharmacologically active agents and basic principles of pharmacology are discussed. Topics discussed in the first half of the course include drug absorption, distribution, and metabolism; receptor theory; chemotherapy and endocrine pharmacology.

537 General Pharmacology. 4.5 lecture hours. 4.5 credits. I. (Continuation of PMC 536). Topics covered in the second semester include: autonomic, cardiovascular, and central nervous system pharmacology.

542 Forensic Toxicology. 3 lecture and 2 laboratory hours. 4 credits. II. (Alt. yrs. '81-'82.) Lecture and laboratory exercises in which common poisons and groups of poisons are discussed as to detection, diagnosis, and treatment of poisoning. Laboratory work includes basic principles of analytical toxicology.

548 Drug Dependence. 3 lecture hours. 3 credits. Prerequisite: graduate or post-baccalaureate standing. See PMC 448 for course description. This course may not be taken in lieu of any pharmacology offerings in the professional schools on the MCV Campus.

590 Pharmacology Seminar. 1 lecture hour. 1 credit. I, II. Members of the departmental staff, students, and visiting lecturers participate in discussions on topics of current and historical interest.

625 Biochemical Pharmacology. 3 lecture hours. 3 credits. I. (Alt. yrs. '81-'82.) Prerequisite: BIC 503. Selected topics dealing with the activation and inactivation of drugs and the effects of drugs on enzyme systems. Lectures and assigned reading.

632 Neurochemical Pharmacology. 3 lecture hours. 3 credits. II. (Alt. yrs. '82-'83.) The biochemical and theoretical aspects of the effects of drugs on the central nervous system will be discussed.

633 Behavioral Pharmacology. 3 lecture hours. 3 credits. I. (Alt. yrs. '81-'82.) This is a survey course covering research on the effects of drugs on behavior.

The major emphasis will be on schedule-controlled learned behavior, but unconditioned behaviors, social behavior, aggression, and other behavior will be included. Additional topics include drug self-administration, drug discrimination, conditioned drug effects, developmental psychopharmacology and drug-induced taste aversions. The course focuses primarily on laboratory research in animals although human research will also be covered. The relevance of this research literature to drug treatment of behavioral disorders and substance abuse will be discussed.

634 Special Topics. 1-4 credits. I, II. Prerequisite: permission of instructor. Special topics in pharmacology or toxicology covered in less detail in other courses will be studied in depth in this course.

637 Cardiovascular-Autonomic Pharmacology. 3 lecture hours. 3 credits. (Alt. yrs. '81-'82.) Specialized advanced course in the pharmacology of drugs which affect these systems.

638 Advanced Toxicology. 3 lecture hours. 3 credits. II. (Alt. yrs. '82-'83.) A holistic approach will be taken to describe and analyze toxicological information. Animal, organ, cellular, and biochemical responses to toxic agents are presented. Immunologic, genetic, endocrine, and central nervous system paradigms and their relationship to the mechanism of action of these agents as well as the predictive value of tests of these systems will also be covered. Pharmacokinetics and metabolism of toxic agents as well as statistical and analytical procedures will be integrated into these discussions.

639 Drug Development. 1 lecture and 4 laboratory hours. 3 credits. I. (Alt. yrs. '82-'83.) Prerequisite: PMC 536 and 537 or their equivalents. The principles of drug screening, advanced testing, and procedures necessary prior to the clinical evaluation of new products are described. An emphasis is placed on physiological type procedures used in pharmacology. Conducted in cooperation with scientists from A. H. Robins.

641 Pharmacology Review (Dentistry). 1 lecture hour. 1 credit. I. A review course in pharmacology for senior dental students.

642 Patient, Drugs, Diseases, and Dentists. 1 lecture hour. 1 credit. II. Discussion of patients, their diseases, drugs used to treat these diseases, and how they relate to the practice of dentistry.

690 Research in Pharmacology. 1-15 credits. I, II, S. Research in pharmacology laboratories for advanced graduate students.

Department of Physiology (PIO)

Professors: Briggs (Chairman); Biber; Fabiato; Mayer; Mikulecky; Price

Emeriti Professors: Edwards; Fischer; Huf

Associate Professors: Boadle-Biber; Clamann; Corley; De Simone; Ford; Pittman; Poland; Ridgway;

Stein; Szumski; Witorsch

Assistant Professors: Baumgarten; Costanzo; Driska; Feher; Kalimi

361 Introduction to Human Physiology. 3 lecture hours.

3 credits. II. Prerequisite biology, general chemistry, and human anatomy. An introductory course to human physiology based on an analysis of organ systems.

382 Mammalian Physiology. 5 lecture hours. 5 credits. II. A comprehensive study of the function of mammalian organ systems. (Lectures taken with PIO 502.)

501 Graduate Mammalian Physiology. 5 lecture hours. 5 credits. I. Prerequisite: biology, chemistry, and physics. A comprehensive study of the function of mammalian organ system, designed primarily for graduate students.

502 Mammalian Physiology. 5 lecture and 3 laboratory hours. 6.5 credits. II. Prerequisite: same as for PIO 501. A comprehensive study of the function of mammalian organ systems, designed primarily for dental and pharmacy students.

504 Cell Physiology. 4 lecture hours. 4 credits. II. A description of the functional properties of cells in terms of physics and chemistry. Topics discussed include cell structure and cytochemistry, bioenergetics, secretion, and transport of material across membranes, excitation, and contractility.

530 Special Topics in Physiology. 1-4 credits. I, II. Prerequisite: a 500-level physiology course or equivalent; permission of instructor. This course is designed to provide study of specific topics in physiology. The topics offered include cell physiology, neurophysiology, cardiopulmonary physiology, renalgastrointestinal physiology, and endocrinology.

590 Physiology Seminar. 2 lecture hours. 2 credits. I, II. Reports on current physiological research and problems presented by graduate students, staff, and visiting lecturers.

604 Membrane Transport. 2 lecture hours. 2 credits. I. Advanced description of membrane transport processes.

606 Mathematical Physiology. 3 lecture hours. 3 credits. I and II. Introduction to mathematical techniques used in research. Matrices, linear operator, vectors and tensors, partial differentiation, numerical methods, Fourier Series, and La Place transformations are included.

690 Research in Physiology. 1-15 credits. I, II, S. Research in physiology.

Department of Pathology (PAT)

The Department of Pathology of the school of Medicine offers the Master of Science and Doctor of Philosophy degrees. Requirements for admission and academic performance are the same as for the School of Basic Sciences.

501 General Pathology (Dentistry). 3 lecture and 6 laboratory hours. 6 credits. Instruction in the basic principles regarding alteration of structure and function in disease and in the pathogenesis and effect of disease in the various organ systems.

509 Basic Immunohematology. 3 lecture hours. 3

credits. II. A study of the blood groups in man, their mode of inheritance, and clinical significance. Pertinent laboratory exercises will be carried out in the blood bank.

510 Basic Clinical Immunohematology. 4 lecture hours. 4 credits. I. Prerequisite: PAT 509 or permission of instructor. Indications for the transfusion of blood, blood components, and derivatives. Laboratory experience related to the collection and storage of blood, blood components, and blood derivatives.

513 Blood Banking Laboratory. 8 laboratory hours. 4 credits. I, II. Prerequisite: PAT 509. The laboratory is devoted to exercises in blood grouping, typing, genotyping, antibody screening, antibody identification, detection of Australia antigen (HBsAg), and the collection of blood from normal donors.

515 Problems in Neuroscience. 3 lecture hours. 3 credits. I. This multidisciplinary pathology/neuroscience course is designed to provide graduate students, residents, and fourth year medical students with a broad, updated, and integrated overview of neuropathology and the other neurosciences. Basic molecular and cellular principles of neurobiology are brought to life by selected clinical correlations and applications. The lectures introduce major CNS pathways and systems in conjunction with basic and advanced neuropathological principles. The disease topics are cohesively taught, from several points of view by specialized faculty drawn from many departments, clinical and basic.

521 Clinical Chemistry. 3 lecture hours. 3 credits. I. Prerequisite: permission of instructor. Principles and applications of automation and instrumentation to the analysis of biological fluids in health and disease. May be repeated for up to 12 credits.

530 Clinical Immunopathology. 2 lecture and 6 laboratory hours. I. Prerequisite: MIC 506 or equivalent. Application of immunologic methods to disease diagnosis and management with emphasis on immunopathogenetic mechanisms of organ systems: endocrine, lympho-reticuloendothelial, renal, gastrointestinal, cardio-pulmonary, skin, neurologic, etc. Technical aspects of testing, test interpretation, and clinical case presentations will be intermingled to provide a comprehensive understanding of clinical immunopathology and its role in patient care.

560 Advanced Oral Pathology. 2 lecture hours. 2 credits. I. Prerequisite: PAT 501. A didactic course on the etiology, clinical histopathologic characteristics, prognosis, and treatment of oral and paraoral lesions.

561 Oral Pathology Seminar. 1 lecture hour. 1 credit. II. A thorough review of assigned topic from the current literature is required. Students then report on the

clinical, histological, and biological characteristics of the assigned entity.

580 Experimental Pathology Seminar. 1 lecture hour. 1 credit. I, II.

590 Clinical Chemistry Seminar. 1 lecture hour. 1 credit. I, II. Graduate students, residents, and staff present topics of current interest in clinical chemistry.

602 Experimental Pathology of Infectious Diseases. 2 lecture and 6 laboratory hours. 5 credits. II. Autopsies and histopathology are studied to acquaint the graduate student with infectious disease pathology. Various animal and other models are used to demonstrate pathogenesis of some infections and other inflammatory mechanisms.

606 Biochemistry of Disease. 2 lecture hours. 2 credits. I. Prerequisite: BIC 503. A detailed study of the biochemical mechanisms involved in the pathogenesis of certain diseases.

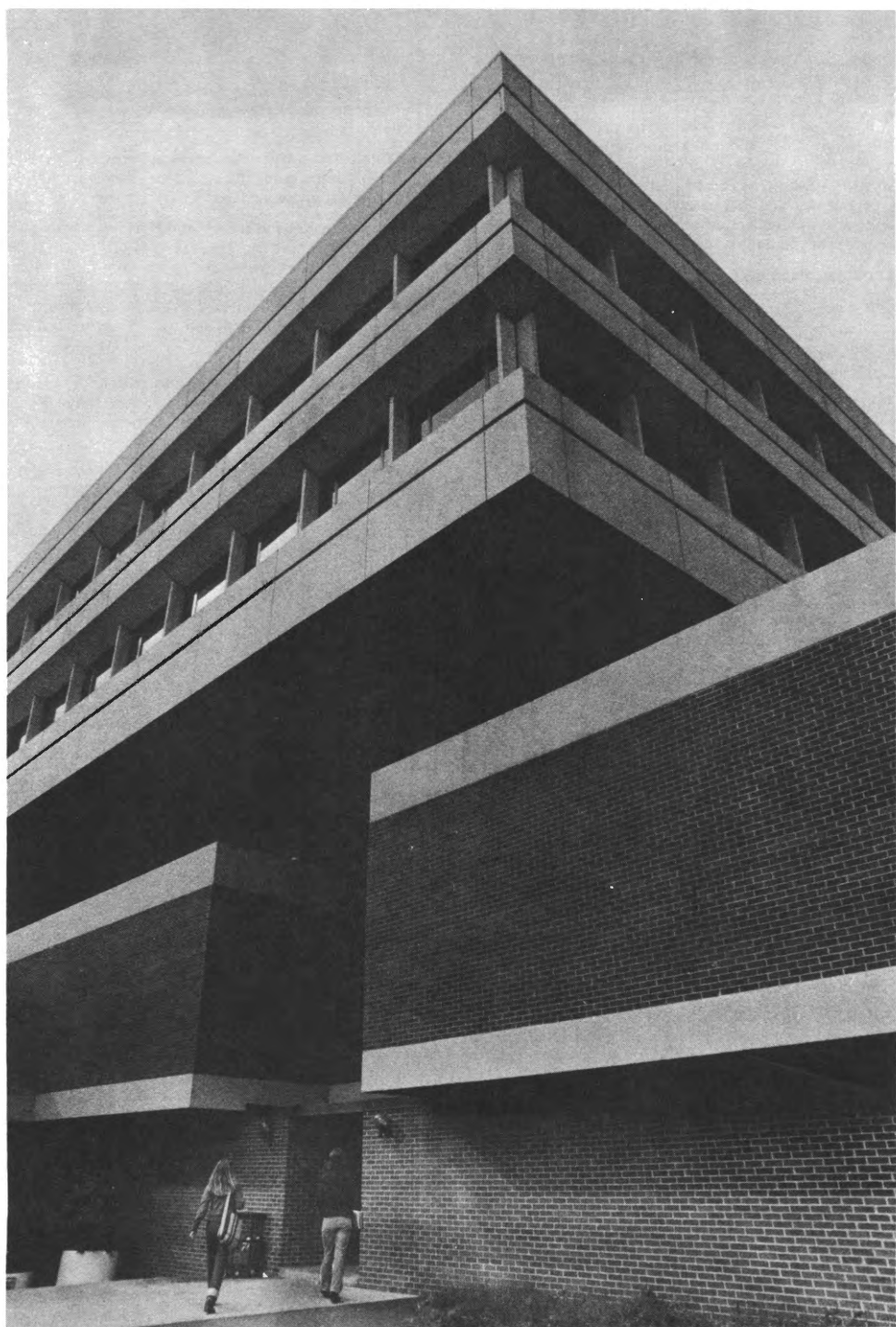
610 Physiology of Blood Coagulation. 1 lecture and 4 laboratory hours. 3 credits. II. Prerequisite: BIC 503 and PIO 502. The historical development of bleeding and clotting disorders with current diagnostic methodology and treatment.

612 Pathogenesis of Infectious Disease (Viral Agents). 2 lecture and 6 laboratory hours. 5 credits. II. Prerequisite: MIC 502 or equivalent. Discussion of the pathogenesis and epidemiology of viral and rickettsial diseases emphasizing interrelationships of host, parasite, and environment. Students learn to evaluate virological procedures as well as the interpretation of laboratory results and their application to diagnostic problems in clinical areas.

614 Pathogenesis of Infectious Disease (Bacterial Agents). 2 lecture and 4 laboratory hours. 4 credits. II. Prerequisite: MIC 515 or equivalent. Emphasis is on the pathogenesis and epidemiology of infectious disease. The dynamic interaction among the host, microorganism, and environment are documented using the data obtained from MCV Hospitals. Students have the opportunity to apply laboratory data and techniques to present microbiological problems in clinical areas.

620 Special Topics in Modern Instrumental Methods. 1 lecture and 2 laboratory hours. 2 credits. I, II. A study of some of the modern research methods of molecular biology. The student gains experience with the technique concomitant with discussions with faculty. The student writes a comprehensive review of the technique studied.

690 Research in Pathology. 1-15 credits. I, II, S. Research leading to M.S. or Ph.D. degree.



PART VI—School of Business

ADMINISTRATIVE OFFICERS

J. CURTIS HALL, A.B., M.S., Ed.D.
Dean

JOHN D. LAMBERT, B.S., M.S., Ph.D.
Associate Dean

GLENN H. GILBREATH, B.S., M.S., Ph.D.
Assistant Dean

Moustafa H. Abdelsamad, B.Com., M.B.A., D.B.A.
Director of Graduate Studies

RUSSELL A. JOHNSTON, B.S., M.S., Ed.D.
Director, Center for Business and Economic
Development

JOHN B. SPERRY, B.S., M.B.A., Ph.D., C.P.A.
Chairman, Department of Accounting

WALTER S. GRIGGS, JR., M.H., J.D., Ed. D.
Chairman, Department of Business Administration
and Management

J. HOWARD JACKSON, B.S., M.S., Ph.D., C.P.S.
Chairman, Department of Business Education and
Office Administration

WILLIAM F. HELLMUTH, B.A., Ph.D.,
Chairman, Department of Economics

A. JAMES WYNNE, B.S., M.S., Ph.D.
Chairman, Department of Information Systems

CLIFFORD J. ELLIOTT, B.S., M.Econ., Ph.D.
Chairman, Department of Marketing

HISTORY

Virginia Commonwealth University's School of Business and its Graduate Program can be traced back to 1917 when a board of private citizens organized the Richmond School of Social Economy for Social Workers and Public Health Nurses. The school was first headed by Dr. Henry H. Hibbs and held its first classes in a converted residence at 112 Capital Street in Richmond,

Virginia. For the next 20 years, the school underwent changes in name, physical plant, affiliation, and curriculum. By 1937 the school was called the Richmond Professional Institute; it had placed down its educational roots in what was then the West End of Richmond; it was affiliated with the College of William and Mary; and it had added business courses to the curriculum.

The first business courses were designed primarily to aid students in obtaining employment in retail establishments and in becoming professional secretaries. It was soon apparent, however, that these business courses were successful and were able to meet a community need. Accordingly, by 1940 the Department of Economics and Business was established, and in 1943 the first Bachelor of Science in business degree was awarded.

The G.I. bill, which emerged from World War II, enabled many former servicemen to return to school, and many of these veterans studied business. Throughout the 1940's and 1950's, the business program expanded and grew as it continued to meet the needs of an urban community. During its development, the School of Business offered a one-year certificate in secretarial work, a two-year certificate in business administration, a three-year certificate in accounting, and a four-year degree. The success of the undergraduate program led to the develop-

ment of graduate curricula. In 1962 the Master of Science in business degree was awarded. Other degrees have been added to meet the needs of an urban constituency.

The graduate program in business at Virginia Commonwealth University is a successor to a long tradition of meeting the needs of an urban community and an urban student body. From the halting starts of the past, the program has continued to develop and mature to meet the needs of the future.

DEGREE PROGRAMS

The School of Business offers degree programs leading to the Master of Accountancy, Master of Arts in economics, Master of Business Administration, Master of Science in business, and Master of Taxation.

CERTIFICATE PROGRAMS

The School of Business offers the post-baccalaureate certificate in accounting and the post-baccalaureate certificate in information systems.

ADMISSION TO DEGREE PROGRAMS

Students who have earned a bachelor's degree or its equivalent may be admitted to the graduate programs. Selection is made on the basis of undergraduate performance, Graduate Management Admission Test (GMAT), or Graduate Record Examination (GRE) depending upon the graduate program desired, intellectual capacity, character, experience, and other indicators of the ability to pursue graduate study profitably. To be accepted in the graduate program, in addition to other requirements, the applicant must be in good standing at the college or university he or she previously attended.

Satisfactory subject-matter scores on the College Level Examination Program (CLEP) may, on a limited basis and at the discretion of the director of graduate studies in business, be substituted for some foundation courses. The CLEP Bulletin of Information and a registration form can be obtained from the College-Level Examination Program, Box 1824, Princeton, NJ 08540, or from the Office of Graduate Studies in Business.

Foreign students must also submit scores on the Test of English as a Foreign Language (TOEFL); a minimum score of 550 is re-

quired. The TOEFL Bulletin of Information and a registration form can be obtained in a number of cities outside the United States. They often are available at one of the following: American embassies and consulates, offices of the United States Information Service (USIS), United States educational commissions and foundations abroad, and binational centers.

Students who cannot obtain a TOEFL bulletin and registration form locally should write well in advance for them to: Test of English as a Foreign Language, Box 899, Princeton, NJ 08540, U.S.A.

Foreign students must be officially accepted at least six weeks prior to the semester for which they are seeking admission.

Applicants to the Master of Accountancy, Master of Business Administration, Master of Science, and Master of Taxation programs must submit scores on the Graduate Management Admission Test (GMAT). The School of Business at VCU is a testing center for this examination which is given in October, January, March, and July. This test should be taken as far as possible in advance of the time of desired entry. The GMAT Bulletin of Information and a registration form can be obtained from the Office of Graduate Studies in Business or the Graduate Management Admissions Test, Educational Testing Service, Box 966-R, Princeton, NJ 08541.

Applicants to the Master of Arts degree program in economics must submit scores on the Graduate Record Examination (GRE), including the advanced test in economics. The School of Education at VCU is a testing center for this examination which is given in October, December, January, February, April, and June. This test should be taken as far as possible in advance of the time of desired entry. The GRE Bulletin of Information and a registration form can be obtained from the Office of Student Services, School of Education, 2087 Oliver Hall, 257-1296 on the Academic Campus, or Educational Testing Service, Princeton, NJ 08540, U.S.A.

APPLICATION DEADLINE

Applications should be completed at least eight weeks prior to the beginning of the semester or summer session desired.

However, applications received after the deadline are evaluated as soon as possible.

COURSES TAKEN PRIOR TO ACCEPTANCE

No credit will be given for graduate classes taken prior to acceptance into a graduate degree program in business or economics.

ENROLLMENT IN GRADUATE COURSES

A student may not enroll in any graduate business or economics courses (except BUS 600) for credit without first being formally admitted to the graduate programs. Exceptions to this policy are made only with written permission of the director of graduate studies in business.

TRANSFER CREDIT

A maximum of six semester hours of acceptable graduate credit earned in a degree program at an accredited institution may be transferred and applied toward the graduate degree. Such credits will be evaluated for acceptance purposes at the completion of nine semester hours of work at this institution.

Acceptance of transfer credit is made at the discretion of the director of graduate studies in business.

All transfer work must be at the "A" or "B" grade level. The student must be in good standing both at Virginia Commonwealth University and at the institution from which the credits were earned. Additionally, the student must have had full admission during the time these credits were earned at that college or university. Transfer credit shall not be older than seven years at the time the master's degree is awarded.

Credit to be earned at other institutions after acceptance in the graduate program must be approved in advance, and approval is granted at the discretion of the director of graduate studies in business. Such work is approved only under unusual circumstances such as job transfers or other extenuating circumstances.

A student may not use the same courses for two graduate degrees.

A "graduate transient" classification may be granted to a student in good standing in any recognized graduate school who desires

to enroll in the School of Business for any one semester or summer session. The student will be required to present a certificate of graduate standing but will not have to submit the data normally required for an admission decision. A special form is available to facilitate enrollment.

ADVISING PROGRAM

Each student admitted to a graduate program is assigned an advisor. The student is expected to work with the advisor to plan his or her graduate program. Each graduate program or changes thereto must be approved by both the advisor and the director of graduate studies in business. Courses taken without approval are taken at the student's own risk.

Each student is responsible for knowing and fulfilling all general and specific requirements relating to the completion of his or her degree program. Answers to specific questions may be obtained from the office of the director of graduate studies in business.

Students admitted to the post-baccalaureate certificate programs in accounting and information systems will also be assigned advisors.

GENERAL REQUIREMENTS FOR MASTER'S DEGREES

1. Degree recipients must have received an overall grade point average of 3.0 ("B") on credit hours attempted at Virginia Commonwealth University. All grades received in courses required in the student's program, whether graduate or undergraduate, will be included in computing the average. Excluded from this are BUS 600 and courses taken by the student for his or her own benefit but are not required in the program. The grades of "D" and "F" are counted in computing the overall grade point average but carry no graduate credit.
2. A student who fails to register for at least one course per year will be dropped automatically from the program and must reapply for admission to continue in the program. At that time, some or all of the courses completed prior to the reapplication may

not be accepted toward the degree program.

3. Grades of "A," "B," and "C" are passing grades; "D" is not a passing grade. A student who receives a grade of "C" or below on more than 20 percent of the credit hours attempted for the degree program will be dropped from his or her program. Also, students accepted conditionally are required to satisfy the requirements stated in their letters of acceptance. Courses required in the program, regardless of their level (undergraduate, graduate-foundation, or graduate-advanced) are included under this rule.
4. Courses in which the student has earned a grade of "D" or "F" must be repeated if these courses are needed for graduation. Courses for which a passing grade was received cannot be repeated without prior written permission of the director of graduate studies in business. An appeal to the School of Business Graduate Advisory Committee is required.
5. Students who satisfy all the requirements but the 3.0 average may be allowed to take a maximum of six additional credit hours to raise the average. The student is required to appeal to the School of Business Graduate Advisory Committee to seek permission.
6. A foundation course may be waived by the director of graduate studies in business, based on satisfactory completion of equivalent undergraduate work prior to acceptance in the program. CLEP credit at the "B" or higher level may be accepted in lieu of foundation courses with permission. Waiving courses is at the discretion of the School of Business.
7. Full-time graduate status shall consist of a minimum of nine and a maximum of 16 graduate credits per semester. A maximum of 12 credits may be earned in Summer Sessions each summer.
8. Students must continually demonstrate acceptable professional behavior to be retained in a program of graduate studies.
9. A maximum of one course in the M.B.A. and three courses in other

master's programs may be taken at the 500-level (courses not designated exclusively for graduate students). The advisor and director of graduate studies in business may restrict even further the number of 500-level courses that may be taken in a specific program.

10. All requirements for the degree must be completed within five years from the date of admission to graduate study. This time limitation applies to both full- and part-time students. A maximum of two one-year extensions may be granted by the director of graduate studies in business if satisfactory progress was demonstrated on the part of the student. For extensions, write to the director of graduate studies in business.
11. A student is not permitted to take undergraduate courses equivalent to foundation courses once he or she is admitted to the graduate program without the written permission of the director of graduate studies in business.
12. The record of any student who receives a grade of "D" or "F" may be reviewed by the director of graduate studies in business to determine whether he or she should continue or be dropped from the program.
13. A student may not use the same course(s) for two graduate degrees.
14. The maximum time allowed to change a grade of incomplete is the semester following the semester or summer session in which the grade of incomplete was given. An incomplete grade not changed by that time will be converted to a grade of "F."

QUANTITATIVE BACKGROUND

Master's students with inadequate quantitative background will be required to take additional classes (MAT 100 and BUS 600).

CHANGE IN PROGRAM OR CONCENTRATIONS

Students who desire to change their graduate programs or areas of concentration within the school must make that request in

writing to the director of graduate studies in business. The director will advise them of the necessary requirements and whether the change is possible. The student must be in good standing at the time of change.

CHANGE OF ADDRESS

The student should notify, in writing, both the Registrar's Office and the Office of Graduate Studies in Business of any address change.

GRADUATION

Students must apply to be graduated. For specific instructions as related to the School of Business, contact the director of graduate studies in business.

STUDENT APPEALS

Appeals for exceptions to policies or academic standards may be made in writing to the School of Business Graduate Advisory Committee, Graduate Studies in Business, School of Business, Virginia Commonwealth University, 1015 Floyd Avenue, Richmond, VA 23284.

INDIVIDUAL RESEARCH PROJECTS

Various opportunities exist for students to work closely with faculty on individual research projects. BUS 650, 701-702, 703, 705, and ECO 701-702 are suitable for this purpose.

Unless the student selects the thesis option, no more than one research course may be taken as part of a student's program.

Research courses with the exception of GRS 660 must be taken at the end of the student's program. Registration in all research courses requires approval of the director of graduate studies in business. Forms are available upon request from the Graduate Studies in Business Office. The student is expected to seek approval by the end of the semester or summer session preceding the semester or summer session for which registration is desired.

FINANCIAL AID

The School of Business offers a limited number of graduate assistantships to full-time students in the amount of \$3,000 for the academic year. For further information,

write to the dean of the School of Business.

Graduate students are also eligible for funds administered under the National Defense Loan and college work-study programs. For further information, write to: Director of Financial Aid, Virginia Commonwealth University, 1022 Floyd Avenue, Richmond, VA 23284.

FACULTY

Accounting

Professors: Sperry (Chairman); Coffman; Dunn; Freasier; Holmes
Associate Professors: Holley; Willis
Assistant Professors: Anderson; Balogun; Taylor; Tondaker

Business Administration and Management

Professors: Abdelsamad; Brown; Bushway; Boykin; DeGenaro; Haas; Hunt; Rimler; Thornton
Associate Professors: Abood; Brindley; Canavos; Daughtrey; Ferguson; Gilbreath; Gray; Griggs (Chairman); Haas; Heizer; Humphreys, N.; Johnston; Pentico; Shin; Spinelli
Assistant Professors: Andrews; Berry; Coppins; Creasman; Freeman; Humphreys, W.; Miller, D.; Miller, E.; Rasnic; Scull; Sleeth; Smith; Wood.

Business Education

Professors: Jackson (Chairman); Tucker
Associate Professors: Pearce
Assistant Professors: Ackley; Baker; Dawson; Spring

Economics

Professors: Hellmuth (Chairman); Jennings; Moszer
Associate Professors: Beall; Ferguson; Gallagher; Harrison; Hoffer; Milk; O'Toole; Reilly; Sharshar; Snellings; Yoo
Assistant Professors: Crafton; Dalton; Pratt; Wetzel

Information Systems

Professor: Sutherland
Associate Professor: Ameen
Assistant Professors: Fuhs; Klosky; Licker; Nestman; Riehl; Wynne (Chairman)

Marketing

Professor: Elliott (Chairman)
Associate Professors: Maricle; McDermott; Thompson; Wijnholds
Assistant Professors: Holdges; Sellars

MASTER OF ACCOUNTANCY

The Master of Accountancy degree is designed to provide training for professional positions in public accounting (CPA firms), government, and industry. The required courses provide a diversified background in

functional and support areas which are important for any business-related advanced study.

The electives are consistent with the philosophy that graduate students should develop individual academic specialties and should develop the ability to work independently in pursuit of their goals. Graduates should also be prepared for the Uniform Certified Public Accountant (CPA) Examination, the Certified Internal Auditor (CIA) Examination, and the examination for the Certificate in Management Accounting (CMA).

The degree requires a minimum of 30 semester credits distributed over core courses, restricted electives, and individual electives. Not more than nine semester credits may be taken at the 500 level. Foundation courses represent prerequisites for the advanced courses. Some or all of the foundation courses may be waived for students having satisfactory equivalent preparation.

DEGREE REQUIREMENTS

| Foundation Courses | Credits |
|--|---------|
| BUS 205 Introductory Accounting Survey | 3 |
| BUS 303-304 Financial Accounting I and II (Intermediate) | 6 |
| BUS 323 Legal Environment of Business (Special Section for Accounting Majors) | 3 |
| BUS 401 Cost Accounting | 3 |
| BUS 404 Financial Accounting III (Advanced) . . | 3 |
| BUS 405 Tax Accounting | 3 |
| BUS 406 Auditing | 3 |
| BUS 660 Business Information Systems | 3 |
| BUS 624 Statistical Elements of Quantitative Management | 3 |
| ECO 611 Concepts in Economics | 3 |
| BUS 620 Financial Concepts of Management . . | 3 |
| BUS 670 Concepts and Issues in Marketing . . . | 3 |
| BUS 640 Management Theory and Practice | 3 |

The above courses must be taken prior to taking the advanced courses.

| Advanced Courses | Credits |
|--------------------------------|---------|
| Core Area | 9 |
| Restricted Electives | 9 |
| Electives | 12 |
| | 30 |

A. Core Area:

1. Economics: ECO 610 Managerial Economics
2. Quantitative Techniques: BUS 645 Operations Research; or BUS 648 Managerial Decision Making
3. Research: BUS 650 or BUS 680

B. Restricted Electives: Select three credit hours each from three of the fields

below. The field of accounting is required as one of the three fields. BUS 642 Business Policy, is required of all students who did not receive credit for BUS 434, or its equivalent in their undergraduate program.

1. Accounting: BUS 601 Accounting Theory
2. Business Education
3. Economics
4. Finance
5. Information Systems
6. International Business
7. Management
8. Marketing
9. Personnel and Industrial Relations
10. Quantitative Methods
11. Real Estate and Urban Land Development
12. Risk Management and Insurance
13. Taxation

C. Electives: (Choose four courses from the following)

- BUS 502 Managerial Cost Accounting
- BUS 507 Auditing Methods
- BUS 509 Governmental Accounting
- BUS 510 Advanced Tax Accounting
- BUS 511 Accounting Opinions and Standards
- BUS 512 SEC Accounting Practice
- BUS 602 Advanced Managerial Accounting
- BUS 604 Advanced Auditing
- BUS 606 International Accounting
- BUS 701-702 Thesis

MASTER OF ARTS DEGREE IN ECONOMICS

The Master of Arts degree in economics is designed to provide training for business and government economists, for those now teaching in secondary schools or in junior colleges, and for those who plan further study at the doctoral level. The required courses provide a firm foundation in economic theory, while the electives permit students to concentrate in the field of their choice.

The program provides both a thesis and a non-thesis option. Both options require 30 semester hours of work. Each student's program must be approved by both the advisor and the director of graduate studies in business.

Under the THESIS option 30 hours are to be distributed over the following areas.

1. CORE AREA (15 credits)

| | <i>Credits</i> |
|---|----------------|
| ECO 604 Advanced Microeconomic Theory | 3 |
| ECO 607 Advanced Macroeconomic Theory | 3 |
| ECO 612 Econometrics | 3 |
| ECO 701-702 Thesis | 6 |

2. ELECTIVES (15 credits)

The additional 15 credits, at least nine of which must be in the Department of Economics, must be elected from graduate-level courses.

Under the NON-THESIS option the 30 required hours are to be distributed over the following areas.

1. CORE AREA (12 credits)

| | <i>Credits</i> |
|--|----------------|
| ECO 604 Advanced Microeconomic Theory | 3 |
| ECO 607 Advanced Macroeconomic Theory | 3 |
| ECO 612 Econometrics | 3 |
| ECO 700 Seminar in Economic Methodology and Research | 3 |

2. ELECTIVES (18 credits)

The additional 18 credits, at least 12 of which must be in the Department of Economics, must be elected from graduate-level courses.

Students admitted to the Master of Arts program must have completed 12 semester credits of economics courses or their equivalent in quarter credits, including principles of economics, microeconomic theory, and macroeconomic theory. A knowledge of mathematics and statistics sufficient for the study of econometrics and the advanced theory courses must be acquired before those courses may be attempted. The student's advisor will review the student's economics and mathematical background and will determine the necessary prerequisites.

MASTER OF BUSINESS ADMINISTRATION PROGRAM

The Master of Business Administration program is designed for students with diverse undergraduate backgrounds. It is a program suitable for both nonbusiness and business graduates. Normally, it is a two-year program for graduates of the curricula in the arts and humanities, in engineering, and in the sciences. With an undergraduate degree in business, a person can complete the program in one year of full-time study.

The aim of the M.B.A. program is to prepare persons for the administration of an enterprise and for the responsibilities of management in a wide variety of business endeavors. The program is intended to develop a knowledge of the functions and techniques of management, as well as an understanding of environmental and economic forces that influence administration and decision making. The emphasis is on breadth of outlook rather than on specialization.

A student who has had no undergraduate work in business must earn 54 semester credits to fulfill requirements for the degree. Included are 24 credits of foundation courses designed to provide preparation comparable to the professional core in the undergraduate curriculum of the School of Business. Some, or all, of these foundation courses may be waived for students who present satisfactory, equivalent preparation. A minimum of 30 credits of advanced graduate courses will be required of all students. One of the two elective courses may carry a 500 number, but not both.

DEGREE REQUIREMENTS

| Foundation Courses¹ | <i>Credits</i> |
|---|----------------|
| BUS 660 Business Information Systems | 3 |
| BUS 624 Statistical Elements of Quantitative Management | 3 |
| ECO 611 Concepts in Economics | 3 |
| BUS 607 Financial Accounting | 3 |
| BUS 620 Financial Concepts of Management | 3 |
| BUS 630 Fundamentals of the Legal Environment of Business | 3 |
| BUS 670 Concepts and Issues in Marketing | 3 |
| BUS 640 Management Theory and Practice | 3 |
| | 24 |

Advanced Courses

| | |
|--|----|
| BUS 608 Managerial Accounting Concepts | 3 |
| BUS 645 Operations Research | 3 |
| ECO 610 Managerial Economics | 3 |
| BUS 641 Organizational Behavior | 3 |
| BUS 621 Advanced Financial Management | 3 |
| BUS 671 Marketing Management | 3 |
| BUS 661 Information Systems Development | 3 |
| BUS 642 Business Policy | 3 |
| Business or Economics Electives | 6 |
| | 30 |
| TOTAL | 54 |

Unless warranted by circumstances beyond the control of the student, the above courses must be taken in the order given above.

¹These foundation courses may not be included in the 30 semester credits of advanced work required for any of the master's degrees offered by the School of Business.

MASTER OF SCIENCE DEGREE IN BUSINESS

The Master of Science degree program is designed to be flexible enough to meet a variety of needs. It provides advanced professional education for those now engaged in, or preparing for, managerial positions. It also offers appropriate graduate education for those now teaching or contemplating future graduate work. The work that is required of all candidates gives a broad approach to improving understanding of the principles of business management and economics that are important in any of the business fields. The elective part of the program is in keeping with the philosophy that graduate students should develop the ability to work independently in pursuit of their own goals. The elective portion of this program also allows students to specialize in a particular area of business. Concentrations are available in the following areas:

Business Education
Economics
Finance
Information Systems
International Business
Management
Marketing
Personnel and Industrial Relations
Quantitative Methods
Real Estate and Urban Land Development
Risk Management and Insurance

Business Education

The Master of Science degree provides a major concentration in business education. This program offers advanced professional education for teaching and for supervisory and administrative positions in secondary schools and community colleges.

Economics

The concentration in economics requires at least 12 credits in economics, including ECO 604 Advanced Microeconomics and ECO 607 Advanced Macroeconomics. Students may do general work in economics, or they may choose a limited concentration such as public policy, finance, applied microeconomics, or mathematical economics. Students are encouraged to elect some related courses in other fields. Students are required to get approval of their academic

program in advance from the graduate student advisor in the Department of Economics and from the director of graduate studies, School of Business.

Finance

The finance concentration is designed to prepare the student for numerous positions in financial management in commercial, industrial, financial, and governmental institutions.

It consists of courses in advanced financial management, advanced financial theory, funds management in financial institutions, security analysis, and portfolio management. Supporting courses may be taken in accounting and economics.

Information Systems

Master of Science students may concentrate in the information systems area by taking courses at the graduate level within the particular area of concentration desired; for example, computer programming, systems analysis and design, hardware/software, and information systems administration.

Depending upon academic background and work experience, additional undergraduate course work in the field of information systems may be required up to a maximum of 15 hours.

International Business

Graduate students may concentrate in the field of international business. A program of study in the international business field will, in addition to the academic requirements, normally include enrollment in at least four courses, to be selected by the student, in the international field. Such courses may include international accounting, marketing, management, trade theory, economic development, etc. Candidates admitted to the graduate program of the School of Business will not require any additional undergraduate work to pursue a concentration in international business.

Management

Graduate students wishing a greater concentration in management than the M.B.A. program allows may meet their objectives by electing to work for the M.S. in business

with a management concentration. In addition to Business Policy and Organization Theory (required in the M.B.A. program), such students may take additional management courses in Systems Management, International Business Management, Personnel and Industrial Relations, and such other relevant electives as may be approved by their advisors.

Marketing

The marketing concentration is intended for those who wish to practice management with a strong emphasis on marketing. Specializations are available in consumer behavior, marketing research, and the strategic aspects of marketing.

Personnel and Industrial Relations

The Masters of Science with a personnel and industrial relations concentration is designed to prepare the students to deal with the ever-changing personnel and industrial relations problems in various organizations. It allows flexibility for inclusion of courses in business, economics, psychology and sociology, as well as other courses.

Quantitative Methods

This concentration prepares the student for a conceptual understanding of the quantitative methods that are used successfully in many business environments and simultaneously provides sophistication in the application of these techniques. BUS 632, BUS 645, BUS 648 and BUS 668 are the nucleus of the program. Additionally, a restricted number of approved quantitative courses can be selected from the Departments of Economics, Biostatistics, or Mathematical Sciences.

Real Estate and Urban Land Development

Tomorrow's leaders in the complex and challenging field of real estate must obtain a clear understanding of the effects of inter-

related land use activities and how these activities are best developed, coordinated, analyzed, financed, and marketed. Providing this knowledge is a major objective of this concentration, which integrates studies with actual contemporary urban real estate and land development issues. The university's urban environment provides an excellent "real world" laboratory for student research.

Risk Management and Insurance

This concentration is designed to increase one's effectiveness in establishing policies and making decisions concerning risk management and insurance in organizational and individual settings. Advanced courses utilize an applied management approach, covering technical aspects of risk management and insurance, internal management of insurance organizations, and cases on consumer uses of insurance.

MASTER OF SCIENCE DEGREE REQUIREMENTS

A student who has had no undergraduate work in business or economics must earn a minimum of 54 credits to fulfill requirements for the degree. Included are 24 credits of foundation courses designed to provide preparation comparable to the professional core in the undergraduate curriculum of the School of Business.² Some, or all, of these foundation courses may be waived for students who present satisfactory equivalent preparation. A minimum of 30 credits of advanced graduate courses will be required of all students.

DEGREE REQUIREMENTS

| Foundation Courses ³ | Credits |
|---|---------|
| BUS 660 Business Information Systems | 3 |
| BUS 624 Statistical Elements of Quantitative Management | 3 |
| ECO 611 Concepts in Economics | 3 |
| BUS 607 Financial Accounting | 3 |
| BUS 620 Financial Concepts of Management . . . | 3 |
| BUS 630 Fundamentals of the Legal Environment of Business | 3 |
| BUS 670 Concepts and Issues in Marketing | 3 |
| BUS 640 Management Theory and Practice | 3 |

Unless circumstances beyond the control of the student warrant it, the above courses must be taken prior to taking advanced courses and in the order given above.

²Some concentrations (e.g., accounting, economics, information systems, real estate and urban land development, and taxation) have additional special prerequisites. Please consult the Office of Graduate Studies in Business.

³These foundation courses may not be included in the 30 semester credits of advanced work required for any of the master's degrees offered by the School of Business.

Each student must complete an M.S. program to be approved by both the advisor and the director of graduate studies in business. The 30 semester credits of advanced work must be distributed over the following three areas:

1. CORE AREA (9 credits)

All students must complete a minimum of three semester credits in each of the following areas, with one exception noted under THESIS OPTION. The specific courses to be taken in these areas will be determined by each student's background and professional objectives: economics, quantitative techniques, and research (or BUS 642, if applicable).

2. RESTRICTED ELECTIVES (9 credits)

All students must complete three semester credits in each of three of the following fields: accounting, business education, economics, finance, industrial relations, information systems, insurance, international business, management, marketing, quantitative techniques, real estate and urban land development, and taxation.

3. ELECTIVES (12 credits)

With the approval of the advisor and the director of graduate studies in business, a student may concentrate these 12 credits in the area of concentration or related areas.

THESIS OPTION: A student interested in writing a thesis may take six course credits in Area 3 plus BUS 701-702 Thesis. If a student elects to write a thesis and has already acquired an adequate knowledge of research techniques, the student may, with the permission of the advisor and the director of graduate studies in business, omit the research requirement in Area 1 and replace it with an additional three-credit elective.

MASTER OF TAXATION

The Master of Taxation degree is designed to prepare individuals for positions in the specialized professional area of taxation with-in public accounting, private or industrial accounting, trust and fiduciary accounting, and governmental accounting. The field of taxation is very broad and includes not only income taxes for individuals, corporations, estates, and trusts but also estate and gift taxes, estate planning, pensions, and profit-sharing plans. The degree program is designed to develop both a con-

ceptual understanding and a sound technical knowledge necessary for professional specialization in taxation. The program provides a thorough treatment of tax laws and regulations, tax research, and tax practices and procedures needed within the purview of accounting.

The degree requires a minimum of 30 semester credits distributed over core courses, restricted electives, and individual electives. Not more than nine semester credits may be taken at the 500 level. Foundation courses represent prerequisites for the advanced courses. Some or all of the foundation courses may be waived for students having satisfactory equivalent preparation.

DEGREE REQUIREMENTS

| Foundation Courses | Credits |
|--|---------|
| BUS 205 Introductory Accounting Survey | 3 |
| BUS 303-304 Financial Accounting I and II (Intermediate) | 6 |
| BUS 323 Legal Environment of Business (Special section for accounting majors) | 3 |
| BUS 401 Cost Accounting | 3 |
| BUS 404 Financial Accounting III (Advanced) . . | 3 |
| BUS 405 Tax Accounting | 3 |
| BUS 406 Auditing | 3 |
| BUS 660 Business Information Systems | 3 |
| BUS 624 Statistical Elements of Quantitative Management | 3 |
| ECO 611 Concepts in Economics | 3 |
| BUS 620 Financial Concepts of Management . . . | 3 |
| BUS 670 Concepts and Issues in Marketing | 3 |
| BUS 640 Management Theory and Practice | 3 |
| The above courses must be taken prior to taking the advanced courses. | |
| Advanced Courses | Credits |
| Core Area | 9 |
| Restricted Electives | 9 |
| Electives | 12 |
| | 30 |

A. Core Area

1. Economics: ECO 616 Advanced Public Finance
2. Quantitative Techniques: BUS 645 Operations Research; or BUS 648 Managerial Decision Making
3. Research: BUS 680

- B. Restricted Electives: Select three credit hours each from three of the fields below. The field of taxation is required as one of the three fields. BUS 642 Business Policy, is required of all students who did not receive credit for BUS 434, or its equivalent in their undergraduate program.

1. Accounting: BUS 601

2. Business Education
3. Economics
4. Finance
5. Information Systems
6. International Business
7. Management
8. Marketing
9. Personnel and Industrial Relations
10. Quantitative Methods
11. Real Estate and Urban Land Development
12. Risk Management and Insurance
13. Taxation: BUS 682 Taxation of Corporations and Shareholders

C. Electives: (Choose four courses from the following)

- BUS 510 Advanced Tax Accounting
- BUS 681 Cases in Federal Income Taxation
- BUS 683 Corporate Reorganizations and Collapsible Corporations
- BUS 684 Taxation of Partnerships and Selected Organizations
- BUS 685 Taxation of Property Transactions
- BUS 686 Tax Aspects of Pensions, Profit-Sharing, and Deferred Compensation Plans
- BUS 687 Income Taxation of Estates and Trusts
- BUS 688 Estate and Gift Taxation
- BUS 689 Taxation in Estate Planning
- BUS 690 Tax Administration and Procedure

| | | |
|-------------|--|---|
| BUS 303-304 | Financial Accounting I and II (Intermediate) | 6 |
| BUS 401 | Cost Accounting | 3 |
| BUS 404 | Financial Accounting III (Advanced) | 3 |
| BUS 405 | Tax Accounting | 3 |
| BUS 406 | Auditing | 3 |
| | Accounting Electives | 9 |

Accounting Electives

Select three courses from the following:

- BUS 402 Managerial Cost Accounting
- BUS 407 Auditing Methods
- BUS 408 CPA Problems
- BUS 409 Governmental Accounting
- BUS 410 Advanced Tax Accounting
- BUS 411 Accounting Opinions and Standards
- BUS 412 SEC. Accounting Practice

Students preparing for the CPA examination should also plan to take BUS 260 Information Systems Concepts, BUS 301 Business Statistics (Prerequisite: BUS 111-112 or BUS 600), and BUS 323 Legal Environment of Business (special section for accounting majors). A course in Business Law or Legal Environment of Business is required to sit for the CPA examination in Virginia.

**POST-BACCALAUREATE
CERTIFICATE IN ACCOUNTING**

The Post-Baccalaureate Certificate in Accounting is designed for students who hold bachelor's degrees in fields other than accounting and desire to continue their education beyond the undergraduate level but who do not aspire to a master's degree. Candidates for the certificate are required to complete the courses presented below, or their equivalents, with a minimum of 24 semester credits in accounting to be taken at Virginia Commonwealth University with a minimum "C" average. The program is designed to provide a basic common body of knowledge in accounting. Persons desiring to sit for the Uniform Certified Public Accountants Examination, the Certified Internal Auditors examination, or the examination leading to the Certificate in Management Accounting should consult with their advisor concerning specific requirements.

Requirements

Credits

| | | |
|---------|---|---|
| BUS 205 | Introductory Accounting Survey. | 3 |
|---------|---|---|

**POST-BACCALAUREATE
CERTIFICATE IN INFORMATION
SYSTEMS**

The Post-Baccalaureate Certificate in Information Systems (CIS) is designed for students who hold bachelor's degrees in fields other than information systems and who desire to continue their education beyond the undergraduate level but do not aspire to a master's degree. Candidates for the certificate are required to complete a total of 30 hours including the courses listed below, or their equivalents, with a minimum of 24 credit hours of study in information systems to be taken at Virginia Commonwealth University with a minimum "C" average.

The CIS program is designed to provide more than a basic knowledge of information systems. Specifically, persons completing the program are expected to achieve competency in understanding information systems terminology, concepts, and principles; computer program design, writing, and testing; systems analysis/design through proper application and knowledge of current hardware and software; and planning and carry-

ing out system development and the management of information systems.

Those acquiring these skills should be well received in terms of employment opportunities within the business community and within governmental organizations. Additionally, depending upon the particular mix of required courses and chosen electives, they should be well prepared to sit for the Certificate in Data Processing and Registered Professional Programmer Examinations given under the auspices of the Data Processing Management Association. Presented below are the courses included in the CIS program.

REQUIREMENTS

| | | <i>Credits</i> |
|---------|--|----------------|
| BUS 260 | Information Systems Concepts . . | 3 |
| BUS 361 | Systems Analysis | 3 |
| BUS 362 | Computer Hardware and Software Operations | 3 |
| BUS 363 | Introduction to Programming . . | 3 |
| BUS 364 | Applications Programming | 3 |
| BUS 365 | Systems Design | 3 |
| BUS 367 | Advanced Programming Design Techniques | 3 |
| BUS 464 | Data Base Systems | 3 |
| | | 24 |
| | CIS Electives | 6 |
| | | 30 |

CIS Electives

Select six credits from the following:

| | | |
|-------------|---|---|
| BUS 203-204 | Introduction to Accounting | 6 |
| BUS 366 | Computerware | 3 |
| BUS 460 | Assembler Programming | 3 |
| BUS 461 | System Project Planning | 3 |
| BUS 462 | Control Programming | 3 |
| BUS 463 | Computer Center Operations . . . | 1 |
| BUS 463 | Programming Laboratory-PL/1 . . | 1 |
| BUS 463 | Programming Laboratory- FORTRAN | 1 |
| BUS 463 | Programming Laboratory- Assembler | 1 |
| BUS 463 | Programming Laboratory- Simulation Languages | 1 |
| BUS 467 | System Development Project . . . | 3 |
| BUS 468 | Direction and Coordination of I/S Organization | 3 |

GENERAL COURSE INFORMATION

Course Numbering. Courses numbered in the 500-series are open to graduate students, but the class itself may be taught together with a 400-series number, a course intended for advanced undergraduates. A graduate student can achieve credit for the course by satisfying additional requirements. Courses

with a 600- and 700-series are for graduate students alone and place an emphasis on graduate research and independent study.

Evening college courses are, in most cases, identical with day classes except that they are designated with an "E" following the course number.

Summer Sessions offerings are the same as those listed in this bulletin.

Specific courses scheduled for any summer session will be listed in the Summer Sessions Bulletin.

Course Interpretation. A course listed by a single number, as BUS 641, indicates that it is a one-semester course and may be offered each semester. A course listed with a double number and designated as a continuous course consists of two semester courses the first of which can be taken without the second, but the second of which cannot be taken without the first.

A course listed with a double number, as BUS 701-702, and designated as a year course, means that no credit will be counted toward a degree for the first semester unless followed by the successful completion of the second semester of that course.

The university reserves the right to withdraw any course or program for which there is an insufficient demand.

GRADUATE COURSES IN BUSINESS (BUS)

Each student who enrolls in BUS 624, BUS 632, BUS 645, or BUS 648 will be given a quantitative test at the beginning of the class to determine if the student's quantitative background is appropriate for that course.

Foundation courses may not be included in the 30 semester credits of advanced work required of any of the masters' degrees offered by the School of Business.

The following two courses are available as interdisciplinary graduate offerings to business students.

EDU 679 Educational Measurement and Evaluation. 2 lecture and 2 laboratory hours. 3 credits. A study of group and individual tests typically employed in school testing programs will be made. Particular attention will be given to tests of intelligence, aptitude, achievement, and vocational and psychological inventories. Stress will be placed on proper interpretation and use of test results by the counselors.

GRS 660 Methods of Research. Semester course; 3 lecture hours. 3 credits. This course will deal with the basic principles of research that may be applied to problems in the field of specialization. Students will learn research terminology and techniques; they will review some of the more significant research that has been done in their fields of specialization.

502 Managerial Cost Accounting. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 401. Special topics in relevant costs for decision-making, planning, and control, including applications of operations research and statistics.

507 Auditing Methods. Second semester; 3 lecture hours. 3 credits. Prerequisites: BUS 260, 301, and 406. Application of auditing procedures such as auditing through, with, and around the computer; application of advanced statistical sampling plans to auditing problems for independent as well as internal auditors.

509 Governmental Accounting. First semester; 3 lecture hours. 3 credits. Prerequisite: BUS 204. Introduction to fund accounting, with emphasis on those concepts applicable to state and local governmental agencies.

510 Advanced Tax Accounting. Second semester; 3 lecture hours. 3 credits. Prerequisite: BUS 405. Complex tax problems of the trust, partnership, and corporation. Particular emphasis is given to tax planning.

511 Accounting Opinions and Standards. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 304. A technical course concerned with pronouncements of the public accounting profession. The course objective is to familiarize students with present and proposed accounting opinions and standards.

512 SEC Accounting Practice. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 304. Laws administered by the Securities and Exchange Commission; registration and filing requirements of the principal Securities Acts.

535 Seminar in Personnel Management. First semester; 3 lecture hours. 3 credits. Prerequisite: BUS 331 or permission of instructor. A critical study of selected problems in personnel management.

561 System Project Planning. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 365. Concentrated study of planning methods and techniques required for information systems projects. On completion, students should be able to apply knowledge of systems analysis and programming to plan and carry a complete systems project.

563 Programming Laboratories (Operations; FORTRAN/PL-I; Simulation). Semester course; 3 laboratory hours. 1 credit each section. Prerequisites: BUS 363 or equivalent. Permission of department chairman required for more than three credits. A group of laboratory courses in which the student will study a particular programming language or subject and perform exercises and problems under supervision.

564 Data Base Systems. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 365 and 367. Designed to prepare students for development of systems involving data bases and data base management.

568 Direction and Coordination of Information Systems Organizations. Semester course; 3 lecture hours. 3 credits. Pre- or co-requisite: BUS 461 or permission of instructor. A study of management techniques as applied to direction and coordination of information systems personnel and organizations. Involves readings, group discussion, and case study/assignments.

577 Topic Seminar in Marketing. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 308. In depth treatment within a seminar format of a timely topic within marketing. The topic will vary from semester to semester.

593 Insurance Law. Semester course; 3 lecture hours. 3 credits. A study of the legal concepts and doctrines applicable to the field of insurance. Basic legal problems of the principal branches of insurance are dealt with, including fire, marine, casualty, and life insurance.

600 Quantitative Foundation for Decision Making. Semester course; 3 lecture hours. 3 credits. Prerequisite: a basic course in introductory algebra. A survey of basic tools from algebra, differential and integral calculus, and their application in solving business problems. These topics also provide the necessary foundation for using and understanding more advanced quantitative procedures. May not be included in the 30 semester credits of advanced work required for any of the master's degrees offered by the School of Business.

601 Accounting Theory. Semester course; 3 lecture hours. 3 credits. Prerequisite: 15 hours of accounting or permission of instructor. The historical development of accounting thought and the way it has been influenced by social, political, and economic forces. Analysis of the structure and methodology emphasizes objectives, postulates, and principles. Income determination and asset equity valuation, in both theory and practice.

602 Advanced Managerial Accounting. Semester course; 3 lecture hours. 3 credits. Prerequisite: a basic course in managerial accounting, cost accounting, or permission of instructor. Advanced aspects of the use of accounting information in the management process. Cost-based decision making and control systems are related to short- and long-term objectives of the firm.

604 Advanced Auditing. Semester course; 3 lecture hours. 3 credits. Prerequisite: a basic course in auditing or permission of instructor. Historical development of auditing theory; theory of evidence; internal control; computer audits based upon statistical sampling; special reporting problems; ethical, legal, and social responsibilities of the independent auditor; and operations auditing.

606 International Accounting. Semester course; 3 lecture hours. 3 credits. Prerequisite: six hours of accounting or permission of instructor. International dimensions of accounting; national differences in accounting thought and practice; problems and issues.

607 Financial Accounting. Semester course; 3 lecture hours. 3 credits. Financial accounting standards and procedures. Income determination and financial statement preparation for businesses. Business combinations, consolidations, and other complex business organizations. (This is a foundation course.)

608 Managerial Accounting Concepts. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 607 or equivalent. The use of accounting information contained in reports to management. The functions of planning, decision making, and control are studied as accounting data are reported through the firm's information system and in special analyses.

610 Business Education in Post Secondary Institutions. Semester course; 3 lecture hours. 3 credits. Role of business education in community colleges, junior colleges, post-secondary vocational-technical schools, and private business schools. Teaching special student populations. Interaction with the business community. Designed specifically for business teachers.

611 Improvement of Instruction in Typewriting. Semester course; 3 lecture hours. 3 credits. This course is designed for experienced teachers and prospective teachers specializing in typewriting. It deals with the aims of the typewriting course, the relationship of typewriting to vocational and general education, available instructional materials, teaching aids and devices, current writings and developments, techniques for improving instruction, and practical application and demonstration at the typewriter.

612 Improvement of Instruction in Shorthand. Semester course; 3 lecture hours. 3 credits. This course is designed for experienced teachers and for prospective teachers specializing in shorthand. It deals with the aims of the shorthand and notehand courses; the relationship of shorthand and notehand to the vocational, college preparatory, and general curricula; available instructional materials; teaching aids and devices, including the most modern electronic equipment; current writings and developments; techniques for improving instruction; and demonstration lessons at critical points in the shorthand and transcription courses.

613 Current Practices in Accounting and Data Processing Programs. Semester course; 3 lecture hours. 3 credits. Prerequisite: for business teachers only. Content selection, resource materials, and the integration of bookkeeping, data processing, and clerical accounting in block programs.

614 Readings in Business Education. Semester course; 3 lecture hours. 3 credits. This course offers the student an opportunity to become thoroughly conversant with significant current literature. It will involve critical evaluation of an extensive selection of materials representative of research and other writing in the field of business education.

615 Cooperative Work-Study Programs in Office Education. Semester course; 3 lecture hours. 3 credits. Designed to prepare teachers in the selection, placement, supervision, and coordination of secondary school students in cooperative office work-study programs. Includes federal, state, and local legislation pertaining to the employment of youth and the requirements for funding work-study programs.

616 Advanced Office Administration. Semester course; 3 lecture hours. 3 credits. Designed to acquaint teachers with innovations in business offices. Includes methods, materials, and demonstrations related to the latest word

processing and calculation techniques and equipment in up-to-date office systems.

617 Current Practice in Basic Business Education. Semester course; 3 lecture hours. 3 credits. Prerequisite: for business teachers only. Research findings, content selection, instructional materials, and current trends in teaching basic business subjects.

618 Trends in Business Education. Semester course; 3 lecture hours. 3 credits. Prerequisite: for teachers only. Developments, contributions, and problems of business education in high school and college curricula; philosophy of vocational preparation, professional organizations, legislation, and other trends in the field.

619 Office Procedures in Block Programs. Semester course; 3 lecture hours. 3 credits. Prerequisite: for business teachers only. Current literature, research findings, and current practices in teaching office procedures in secondary schools.

620 Financial Concepts of Management. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 607 or 203-204. A study of the essential concepts of financial management including working capital management, capital budgeting, capital structure planning, and dividend policy. Not open to students who have completed BUS 311 or the equivalent. (This is a foundation course.)

621 Advanced Financial Management. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 311 or 620 or permission of instructor. Analysis of financial problems and policies of non-financial firms, including capital management, capital rationing and cost of capital, and capital structure.

622 Investment Policies for Financial Institutions. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 311 or 620 or permission of instructor. Investment policies of financial institutions with emphasis on long-run values.

623 Advanced Financial Theory. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 311 or 620 or permission of instructor. Advanced theories, concepts, major structural areas, and techniques for financial decision making.

624 Statistical Elements of Quantitative Management. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 600 or equivalent. Develops an ability to interpret and analyze business data in a managerial decision-making context. Managerial applications are stressed in a coverage of descriptive statistics, probability, sampling, estimation, hypothesis testing, and simple regression and correlation analysis. (This is a foundation course.)

625 Group Insurance and Pensions. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 333 or equivalent, or permission of instructor. Analysis of the role and costs of employee benefits in the operation of the modern organization. Includes group life and health insurance, pension plans, and emerging benefit areas.

626 Property and Liability Insurance. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 333 or equivalent, or permission of instructor. An analysis of

personal and business needs for property and liability insurances; the characteristics of the various coverages available, underwriting, marketing, and social problems pertaining to these forms of insurances.

627 Urban Land Development. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. A study of the development process; considering planning, financing, management, and marketing of real property.

628 Issues in Land Development. Semester course; 3 lecture hours. 3 credits. Considers spatial growth and the impact of regulations upon land use decision.

629 Real Estate Feasibility Analysis. Semester course; 3 lecture hours. 3 credits. Housing demand forecasting, commercial site selection, and real estate investment analysis.

630 Fundamentals of the Legal Environment of Business. Semester course; 3 lecture hours. 3 credits. The legal environment of business with emphasis on the development of the law, contracts, sales, business organizations, and commercial paper. (This is a foundation course.)

631 Advanced Labor Law and Legislation. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 323 or permission of instructor. Advanced labor law and legislation with pertinent causal factors; administrative and juridical determination to date. Not open to students who have completed BUS 427.

632 Statistical Analysis. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 624 or equivalent. A business application oriented coverage of statistical inference, analysis of variance, multiple regression and correlation, basic forecasting techniques, non-parametric tests, and other related procedures. Use of a computer statistical package will be included for most topics.

633 Issue in Labor Relations. Semester course; 3 lecture hours. 3 credits. The conceptual framework of labor relations; the interconnection between labor-management relations and the sociopolitical environment.

634 Advanced Labor Relations. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 633. The negotiation and administration of collective bargaining contracts; the handling of grievances.

635 Security Analysis and Portfolio Management. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 311 or 620 or permission of instructor. The process of investing in stocks and bonds, from the analysis of individual securities to portfolio formation and evaluation.

636 Practicum in Transcription Techniques. Semester course; 3 lecture hours. 3 credits. Prerequisite: certification by the state of Virginia to teach advanced shorthand, typewriting, and transcription, or approval of instructor. Designed for teachers of advanced shorthand and transcription. Encompasses the integration of shorthand and typewriting skills with the conventions of written English.

637 Advanced Personnel Administration. Semester course; 3 lecture hours. 3 credits. A critical analysis of

the functions and problem areas related to personnel administration in a large organization; philosophy of personnel administration; employee recruiting, testing, and wage and salary administration and supplemental compensation systems; manpower, training, and development; employee services; the legal environment of personnel administration.

638 Real Property Investment Law. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 323 or equivalent, or permission of instructor. Covers legal aspects of real property development from acquisition through disposition; emphasizes selection of appropriate ownership form, financing, operation, and tax considerations.

639 International Finance. Semester course; 3 lecture hours. 3 credits. A study of financial management of multinational enterprises, banks, firms with foreign subsidiaries, exporters, and service industries. Additionally, financing trade and investments, international money and capital markets, foreign exchange risks, and governmental policies will be covered.

640 Management Theory and Practice. Semester course; 3 lecture hours. 3 credits. Theories, principles, and fundamentals applicable to contemporary management thought and productive activities. (This is a foundation course.)

641 Organizational Behavior. Semester course; 3 lecture hours; 3 credits. Prerequisite: BUS 640 or equivalent, or permission of instructor. An advanced course in management, involving theories and models aimed at developing the managerial competencies needed to analyze, understand, predict, and guide individual, group, and organizational behavior.

642 Business Policy. Semester course; 3 lecture hours. 3 credits. Must be taken after completion of all foundation courses plus 15 credits of advanced course. Integration of principles and policies of business management from the fields of accounting, economics, marketing, finance, statistics, and management in the solution of broad company problems and in the establishment of company policy. Emphasis on interaction of disciplines in efficient administration of a business. Course employs case analysis approach.

643 Systems Management. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 640 and 641 or equivalent, or permission of instructor. The application of systems theory and principles to the operation of contemporary organizations, with emphasis on non-quantitative methods of analysis.

644 International Business Management. Semester course; 3 lecture hours. 3 credits. Prerequisite: completion of foundation courses. Survey course for students interested in international and multinational management. Review of historical, governmental, monetary, and cultural issues affecting the transfer of resources and management knowledge across national boundaries; multinational business and management strategies; study of management practices in selected countries.

645 Operations Research. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 624 or equivalent.

Business problems in production, inventory, finance, marketing, and transportation translated into mathematical models: strengths and weaknesses of such translations. Solution procedures and their limitations.

646 Personnel Law. Semester course; 3 lecture hours. 3 credits. This course examines the laws concerning human resources in organizations, Equal Employment Opportunity, wage and hour laws, Equal Pay Act, the Employees Retirement Income Security Act, the Occupational Safety and Health Act, and employee personal rights laws are emphasized.

647 Public Sector Collective Bargaining. Semester course; 3 lecture hours. 3 credits. This course examines the development, practices, and extent of collective bargaining in the public sector. Analysis of labor issues at federal, state, and local government levels with emphasis on public sector policy issues.

648 Managerial Decision Making. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 624 or equivalent. Formal analytical techniques used by organizations in reaching decisions. The concepts of both classical and Bayesian decision methods will be examined. The emphasis is on the application of a decision-theoretic approach to solving problems in contemporary organizations.

650 Guided Study in Business. Semester course; 3 lecture hours. 1, 2, or 3 credits. Graduate students wishing to do research on problems in business administration or business education will submit a detailed outline of their problem. They will be assigned reading and will prepare a written report on the problem. (To be taken at the end of the program. Approval of proposed work is required by the director of graduate studies in business.)

651 Workshop in Machine Shorthand. Semester course; 3 lecture hours. 3 credits. A course designed for prospective teachers of machine shorthand to provide a knowledge of machine shorthand theory, a development of basis recording skills, and an examination of machine shorthand teaching procedures.

652 Advanced Business Communication. Semester course; 3 lecture hours. 3 credits. Development of skill in planning and writing business reports and other shorter written communications, conducting business research, delivering oral presentation, and using business communication media.

653 Competency-Based Business Education. Semester course; 3 lecture hours. 3 credits. An introduction to the principles and characteristics of competency-based business education. Designed for business teachers in secondary schools who have had no previous instruction in competency-based concepts. Utilization of standardized materials for improving classroom instruction will be stressed.

654 Topics Seminar in Business Education and Office Administration. Semester course; 3 credits. Prerequisite: permission of department chairman. In-depth treatment within a seminar format of a timely topic in business education and office administration. The topic may vary from semester to semester.

655 Advanced Operations Research. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 645 or

equivalent. Advanced discussion of topics in mathematical programming and network analysis as applied to organizational decision making. Includes network flows, integer, non-linear, and dynamic programming, and multicriteria optimization. Emphasis on applications and the use of the computer for problem solving.

660 Business Information Systems. Semester course; 3 lecture hours. 3 credits. Introduces computer organization, programming, computers in management decision making, and systems analysis and design. Not open to students who have completed BUS 260 or the equivalent. (This is a foundation course.)

661 Information Systems Development. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 660 or equivalent. Familiarizes students with the concepts and methodologies inherent in design and development of management information systems.

663 Information Systems Procurement and Contracting. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Study of methods and techniques involved in procurement of ADP equipment, software, materials, and services; in contracting and in contract management.

664 Topics in Information Systems. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Study of current topics of concern to administrators of information systems organizations. Covers technical, management, and policy subjects.

665 Advanced Systems Analysis and Design. Semester course; 3 lecture hours. 3 credits. A required course for those concentrating in information systems. Prerequisites: BUS 361, 365, and 464/564. In-depth study of current techniques for information systems analysis and design. Equal emphasis on defining user requirements and physical design.

666 Computer Performance Evaluation. Semester course; 3 lecture hours. 3 credits. Prerequisite BUS 645 or 632. Methodology and use of hardware and software tools for the evaluation of computer based information systems including people and machine productivity.

667 Telecommunications. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 665. Computer network design, communication carriers and tariffs, communication line control, and communication hardware and software.

668 Computer-aided Analysis in Decision Making. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 645 and 660. Familiarity with programming languages. Use of computers in modeling and solution of managerial decision making problems.

670 Concepts and Issues in Marketing. Semester course; 3 lecture hours. 3 credits. Designed for graduate students with little or no undergraduate education in marketing. A study of the philosophy, environment, and practice of contemporary marketing. (This is a foundation course.)

671 Marketing Management. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 670 or equivalent. Detailed study of concepts and procedural alternatives in the delineation of the market target, the development

and implementation of the marketing mix, and the control and analysis of the total marketing effort.

672 Concepts in Consumer Behavior. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 670 or equivalent. A study of the pertinent psychological, sociological, and anthropological variables that influence consumer activity and motivation.

673 Marketing Research. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 624 and 670 or equivalents. A discussion of the techniques of marketing research. Special emphasis will be given to marketing problem definition, determination of information needs, and current methods of analysis of marketing data.

676 Marketing Strategy. Semester course; 3 lecture hours. 3 credits. Prerequisites: all foundation courses, BUS 671 and 673 or equivalents. Application of marketing concepts and techniques to real-world situations. Development of a marketing plan designed to effectively market a new or existing product or service.

680 Research in Federal Taxation. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 405. Tax research methodology; the sources of tax law and their relationship to tax research.

681 Case Studies in Federal Income Taxation. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 405. Tax problems of corporate liquidations, corporate reorganization, collapsible corporations, and corporate capital structure.

682 Taxation of Corporations and Shareholders. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 405. Corporate tax laws as related to the corporations involved and to individual shareholders; tax aspects of the creation, operation, reorganization, and partial liquidation of corporations; corporate distributions.

683 Corporate Reorganizations and Collapsible Corporations. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 682. Continuation of the study of corporate taxation, with emphasis on corporate liquidations and reorganizations as well as collapsible corporations.

684 Taxation of Partnerships and Selected Organizations. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 680. Tax problems related to operations of the partnership; entry of a new partner; withdrawal of a partner; payments to partners. Also, tax problems of tax exempt organizations, private foundations, and other special corporate forms.

685 Taxation of Property Transactions. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 405. Tax problems and elections relating to acquisition, holding, and disposition of property. Tax planning in relation to comparisons of sales and exchanges as methods of acquiring and disposing of property; study of Section 1245, 1250, and 1231.

686 Tax Aspects of Pensions, Profit-Sharing and Deferred Compensation Plans. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 682. Tax laws as related to pensions, profit-sharing, and deferred com-

pensation plans, and the tax consequences related thereto for individuals and businesses.

687 Income Taxation of Estates and Trusts. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 680. Tax laws relating to trusts, *inter vivos* and testamentary, and to estates. Tax planning will be stressed.

688 Estate and Gift Taxation. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 680. Concepts of gross estate, marital deduction, powers of appointment, gross gifts, exclusions, deductions, and credits; tax aspects of estate planning.

689 Taxation in Estate Planning. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 688. Estate planning as it encompasses the acquisition, protection, and disposition of property; the role of the accountant in estate planning.

690 Tax Administration and Procedure. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 680. The administrative processes within the Internal Revenue Service and the practices and procedures involved and/or available for the settlement of tax controversies.

701-702 Thesis. Year course; 3 lecture hours. 6 credits. Graduate students will work under supervision in outlining a graduate thesis and in carrying out the thesis. No grade will be given for this course until the thesis has been completed and accepted.

703 Field Project. Semester course; 3 lecture hours. 3 credits. Students will work under the supervision of a faculty advisor in planning and carrying out a practical research project. A written report of the investigation is required. (To be taken at the end of the program. Approval of proposed work is required by the director of graduate studies in business.)

705 Business Research Seminar. Semester course; 3 lecture hours. 3 credits. This course is designed to provide research experience for candidates not following the BUS 701-702 program. Assignments will be made to major research projects being conducted by the School of Business. Enrollment is restricted to students in their final semester of the degree program. (To be taken at the end of the program. Approval of proposed work is required by the director of graduate studies in business.)

Department of Economics (ECO)

502 Business Cycles and Forecasting. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 201-202. An examination of repetitive variations in business activity. The measurement and analysis of economic fluctuations and how they affect the business environment. Stresses modern forecasting techniques.

512 Regional Economics. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 201-202. A course to familiarize students with sources and uses of standard data on employment, income, and population, and to provide an introduction to economic base theory as used in regional economics. Application to theory to make and analyze economical and demographic projections for regions in Virginia. Analysis of operation and impact of area economic development programs.

532 Manpower Economics. Second Semester; 3 lecture hours. 3 credits. Prerequisite: ECO 201-202. Considers supply features of the labor market. Emphasis upon evaluating existing federal manpower programs and the effectiveness of manpower and training strategies designed to increase employment.

601 Contemporary Economic Problems. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 201-202 or 611 or equivalent. An analysis of current economic issues. Not open to economics majors.

602 Comparative Economic Systems. Semester course; 3 lecture hours. 3 credits. Surveys Prerequisite: 9 semester hours of economics. Surveys the organization, operation, and performance of capitalism, socialism, and the centrally planned economy.

603 History of Economic Thought. Semester course; 3 lecture hours. 3 credits. Prerequisite: 6 semester hours of intermediate micro and macroeconomics. A survey of the principal contributions to the development of economic theory by leading economists from medieval times to the present.

604 Advanced Microeconomic Theory. Semester course; 3 lecture hours. 3 credits. Prerequisite: undergraduate course in intermediate microeconomic theory or theory of the firm. Theory of prices and markets; value and distribution. Partial and general equilibrium analysis.

605 Economic Development. Semester course; 3 lecture hours. 3 credits. Prerequisite: 12 semester hours of economics. Examination of problems of poverty and economic policies in developing countries. Areas considered are Southeast Asia, Middle East, Africa, and Latin America.

606 Urban Economic Problems. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 611 or equivalent. A study of the location of economic activity, zoning, blight and unemployment, urban renewal, and redevelopment programs.

607 Advanced Macroeconomic Theory. Semester course; 3 lecture hours. 3 credits. Prerequisite: undergraduate course in macroeconomic theory. National income analysis, monetary and fiscal theory and policy, and general equilibrium analysis.

609 Advanced International Economics. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 611 or equivalent. An advanced level examination of why trade occurs, balance of payments concept and adjustment, international equilibrium, forward exchange, markets, international investment, and international organizations.

610 Managerial Economics. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 611 or equivalent. Analysis of business decisions, applying tools of economic theory. Decisions on demand, production, cost, prices, profits, and investments.

611 Concepts in Economics. Semester course; 3 lecture hours. 3 credits. Essential economic concepts including the price system, price determination in imperfectly competitive markets, employment theory, and monetary theory. Not open to students who have completed

ECO 201 or 202 or the equivalent. (This is a foundation course.)

612 Econometrics. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 401 or equivalent or permission of instructor. Provides empirical content to the theoretical concepts of economics by formulating and estimating models. Introduction to simultaneous equation problems in economics and the studies of production, demand, and consumption functions.

614 Mathematical Economics. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 403 or equivalent or permission of instructor. Economic analysis utilizing simple mathematical methods. Includes derivation and exposition of theories and the application of tools to widen the scope and increase the usefulness of economics.

616 Advanced Public Finance. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 306 or equivalent or permission of instructor. Theory and application of public finance, including taxation, expenditures, and budgeting. Special attention to cost-benefit analysis and to inter-governmental relations in a federal system.

617 Financial Markets. Semester course; 3 lecture hours. 3 credits. Prerequisites: money and banking, intermediate macroeconomics. Theories of markets for loanable funds are related to empirical findings and institutional structures. Yields of financial assets, kinds of debt instruments, financial institutions, public policy, financial models, and the role of money and credit in economic growth are considered.

620 The Economics of Industry. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 301, or 303, or 610, or the equivalent. The application of economic analysis to the structure, conduct, and performance of industry; public regulation and policies to promote workable competition.

621 Topics in Economics. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 611 or equivalent and permission of instructor. Study of specialized topic(s) in economics.

624 Health Economics. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 611 or equivalent. Develops an understanding of (1) economics as a managerial tool in making choices or decisions that will provide for an optimum allocation of limited health care resources and (2) economics as a way of thinking about and approaching issues of public policy in financing and organizing health and medical services. Individual research on crucial or controversial economic issues in the health field.

631 Labor Market Theory and Analysis. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 611 or one year undergraduate Principles of Economics. The study of theories and applications designed to analyze wage rate, wage structure, and employment patterns. Studies exploring specific labor markets and problems will be examined.

682 An Economic Approach to Environmental Issues. Semester course; 3 lecture hours. 3 credits. Prerequisite:

ECO 611 or equivalent. The effect of externalities in terms of efficiency and equity considerations. The role and problems of benefit-cost analysis in decision making is developed. The interrelationship of air, water, and land quality issues is analyzed. The use rate of natural resources, energy consumption, and the steady state economy and their impacts are evaluated.

700 Seminar in Economic Methodology and Research. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 604, 607, and 612 or 12 credit hours of graduate economics courses. Familiarizes students with various research methodologies and research techniques, and provides in an elected field of economics, research experience and a survey of the literature.

701-702 Thesis in Economics. Year course; 3 lecture

hours. 6 credits. Graduate students will work under supervision in outlining a graduate thesis and in carrying out the thesis. No grade will be given for this course until the thesis has been completed and accepted.

CERTIFICATE PROGRAMS

In addition to the preceding courses of study, the School of Business also offers certificate programs in information systems and accounting. For course descriptions for the certificate programs, see the undergraduate bulletin. For further information, contact the director of graduate studies in business.



PART VII—School of Community and Public Affairs

ADMINISTRATIVE OFFICERS

LAURIN L. HENRY, B.A., M.A., Ph.D.

Dean

ALVIN J. SCHEXNIDER, B.A., M.A., Ph.D.

Associate Dean

E. DAVIS MARTIN, JR., B.S., M.S., Ed.D.

Assistant Dean

The School of Community Services was established in September, 1969, in recognition of the need for interdepartmental and interdisciplinary relationships to provide better solutions to human problems in a complex society which is rapidly becoming urbanized. In 1981, the school changed its name to the School of Community and Public Affairs in order to reflect more accurately the nature and scope of its academic and professional activities.

The School of Community and Public Affairs offers the following degrees:

Administration of Justice and Public

Safety (M.S.)

Public Administration (M.P.A.)

Recreation (M.S.)

Rehabilitation Counseling (M.S.)

Urban and Regional Planning (M.U.R.P.)

ADMISSION PROCEDURES

The applicant is responsible for submitting all required admission documents to the School of Graduate Studies, Virginia Commonwealth University, Box 568, MCV Station, Richmond, VA 23298. These documents become the property of the university

and are not returned to the applicant. After all required documents have been received, candidates will be notified of the decision of the department as soon as possible by the director of graduate affairs.

Unless otherwise specified by the department, the application deadline for degree-seekers for the fall semester is August 1; the deadline for the spring semester is December 1. However, all applicants—especially those seeking financial aid—are urged to apply before March 1 in order to have the best chance of being accepted or receiving an award of financial assistance for the following academic year.

The following must be submitted to the School of Graduate Studies when applying for a graduate program.

1. **Official Application Form.** Candidates seeking admission to the university in a graduate degree program must file an official graduate application for admission before the specified deadline. Care should be taken to read the directions accompanying the application and to complete all information requested. Incomplete applications will result in a processing delay.
2. **Official Transcripts.** Two copies of the official transcript from an accredited institution showing that a bachelor's degree was awarded must be submitted. In addition, official transcripts of all work undertaken beyond the

bachelor's degree must be submitted. (Note: An "official" transcript includes the school seal affixed by the registrar.)

College seniors may be fully admitted to a graduate program on partial transcripts with the proviso that complete transcripts will be submitted upon completion of the bachelor's degree.

3. **Letter of Reference.** Three letters from persons qualified to give information concerning the applicant's promise of success in graduate study are required on official reference forms. Applicants who received their undergraduate degree within the past five years are urged to request a reference from a faculty member at their undergraduate institution.
4. **Personal Letter.** The applicant must submit a letter stating reasons for wanting to enter graduate study.
5. **Application Fee.** A nonrefundable application fee of \$10 in the form of a check or money order, payable to Virginia Commonwealth University, must be submitted with application.
6. **Scholastic Aptitude Test (GRE) Scores.** The applicant must submit the results of the Aptitude Test (verbal and quantitative sections) of the Graduate Record Examination. Satisfactory GRE or other test scores are determined by the departmental admissions committees. Individual departments may offer alternatives for this requirement.

Applications for the GRE may be obtained from Graduate Record Examination, Educational Testing Service, Box 955, Princeton, NJ 08540. (There are specific deadlines for registration for the examination.)

FULL ACCEPTANCE

Applicants are notified of the decision by the dean, School of Graduate Studies.

PROVISIONAL ACCEPTANCE

Applicants who do not fully meet the requirements for admission may be accepted provisionally upon recommendation of the department. For full admission such students must achieve a grade of "B" or better in each of the first three courses specified by

the department. Individual departments may offer alternatives to this requirement.

MULTIPLE ADMISSIONS

A student may not be admitted to a degree-seeking status in more than one graduate program in the School of Community and Public Affairs without petitioning and receiving written permission from the graduate committee of the school.

READMISSION AFTER ACADEMIC SUSPENSION

A student suspended for academic reasons from any graduate program within the School of Community and Public Affairs may not apply for readmission to any graduate program within the school until two academic years have elapsed from the date of suspension.

ADMISSIONS APPEAL

An applicant denied admission may petition in writing to the dean, School of Graduate Studies for review of the admissions decision by the School of Community and Public Affairs Graduate Committee.

SPECIAL STUDENTS

Students who wish to take graduate courses without formal admission to a degree program are classified as "special students." In courses where enrollment is limited, first priority is given to students admitted to the program, followed by other graduate degree-seeking students at VCU. Special students are not exempted from any prerequisites which may be specified for a course. In addition, successful completion of courses as a special student does not necessarily guarantee admission to the program.

A special student in the School of Community and Public Affairs may not take more than a total of nine semester hours of course work as a special student without having formally applied for admission to a graduate program within the school, and no more than a total of 12 semester hours without having been accepted as a degree-seeking student in a graduate program in the school. For more than nine semester hours, the student must have the approval of the

chairman of the department. Courses taken as a special student may not necessarily apply toward departmental degree requirements.

TRANSFER CREDIT

Graduate credits earned at other institutions must be approved by the department. See departmental descriptions for specific transfer provisions.

PART-TIME STUDY

Degree-seeking students may complete requirements for the degree by studying as full- or part-time students during the regular academic year and summer sessions.

GENERAL REQUIREMENTS FOR GRADUATION

In addition to the specific requirements listed by department, the following general requirements must be met for graduation.

Degree applicants:

1. Must apply for graduation by the dates specified in the University Calendar.
2. Must have achieved an overall grade point average of 3.0 ("B").
3. Will receive no graduate credit for courses in which a grade of less than "C" is given.
4. Must not have more than six semester hours of graduate courses with a grade of "C." Students who receive a grade of "C" or below on more than six semester hours will be dropped from a graduate program.
5. Must show acceptable professional behavior to be retained in a graduate program.
6. Must complete all requirements for the degree within seven years from the date of admission to graduate study at Virginia Commonwealth University.

ADVISING PROGRAM

Students admitted to any department in the School of Community and Public Affairs are assigned an advisor from the departmental faculty. In addition to academic counseling, the advisor is available for advice on other matters whenever students perceive a need.

EFFECTIVE BULLETIN

The student completes the degree program listed in the bulletin effective at the time of admission to a graduate program.

Students in continuous enrollment may choose to stay with their original bulletin or change to a later issue, at their option, but must satisfy all requirements of either.

Department of Administration of Justice and Public Safety

FACULTY

Professors: Hippchen; Keve
Associate Professors: Stinchcomb (Chairman); Farmer; Hague; Morgan
Assistant Professors: Ash; Deurmier; Hooker; Malcan; McDonald; Sydnor

The graduate program in administration of justice and public safety is designed to provide advanced educational preparation for practitioners and students pursuing careers in the fields of criminal justice or juvenile justice. Such preparation includes understanding appropriate theoretical positions and developing appropriate professional skills.

The Master of Science in administration of justice (MS) is a one year degree program requiring 36 semester hours of classwork. Four separate options are available, designed to meet specific needs of differing students. These options are:

Intervention/Prevention—for the practitioner or student interested in developing treatment or case management skills appropriate for counseling positions, probation or parole positions, or correctional institutions.

Program Management (Administration)—for the practitioner or student interested in developing skills appropriate for middle and upper level management positions in criminal justice.

Research—for the practitioner or student interested in developing research evaluation related skills, or planning to pursue the Ph.D. degree.

Manpower Development—for the practitioner or student interested in training positions in criminal or juvenile justice agencies, and/or community college level education.

Within each option, students take appropriate graduate courses from AJPS

faculty and other selected departments in the university. Each option includes sufficient flexibility for the student to elect to emphasize areas of the specialized professional interest. The Department of Administration of Justice offers students the opportunity to complete the equivalent of a minor in several related fields: public administration, rehabilitation counseling, sociology, business, education, and urban planning. A two-course foundation sequence is required for all students who do not hold an undergraduate degree in criminal justice; field placement opportunities will be available for students without field experience.

The program is designed to accommodate both full- and part-time students. Nearly all courses are available in the evenings after 4 pm; weekend courses are also offered for students desiring to commute to Richmond on a work study basis.

The Master of Science in the administration of justice program was established in 1975 in response to a clear expression of need from the justice field, and as an outgrowth of the undergraduate administration of justice and public safety program.

WORK STUDY

A work study program is available for those students only able to come to classes on weekends. The program is presented on a split intensive basis including weekends during the semester. Several such courses will be offered each year permitting students to take all administration of justice and public safety courses necessary to graduate over a period of four years. Students should register for work study courses through the evening program in the usual manner.

NORTHERN VIRGINIA PROGRAM

Graduate courses in the program management option are also available in northern Virginia. The courses are generally taught on the campus of George Mason University in Fairfax.

ADMISSIONS

Beyond the general standards listed on page 9, admissions will be based on:

1. An undergraduate grade-point average of at least 2.7.
2. Previous evidence of ability to perform

graduate level work (such as graduate level course work with grade of "B" or above).

3. Assessment of prior experience or potential in criminal justice and related areas.
4. In addition, applicants will be evaluated by the Departmental Admissions Committee in two general areas: evidence of the ability to perform satisfactorily at the graduate level, and evidence of commitment and potential for contribution to the field

TRANSFER CREDIT

At the time of acceptance of a student into the program, a maximum of six semester hours of appropriate graduate credit may be applied toward a Master of Science degree in the Department of Administration of Justice and Public Safety. Decisions to accept transfer credit or to deviate from this policy will be made by the departmental admissions committee.

FINANCIAL AID INFORMATION

Information and application forms for the Law Enforcement Education Program (LEEP) may be secured from the VCU Financial Aid Office, 327 West Main Street, Richmond, VA 23284.

REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN ADMINISTRATION OF JUSTICE

(In addition to those listed on page 143.)

1. A student must complete a minimum of 36 graduate semester credits approved by the chairman, with an overall grade point average of 3.0 or above.
2. A student without acceptable experience in administration of justice must complete a supervised field placement under the direction of the department and the immediate supervision of a qualified person in an approved agency or facility.
3. All students must pass a comprehensive examination. It is administered after the student has completed a minimum of 30 graduate credits. This examination presently is coordinated in conjunction with a faculty committee

review of the student's required research project (691 or Thesis 699).

CORRESPONDENCE AND INFORMATION

Further information and appropriate forms may be obtained by writing to the Chairman, Department of Administration of Justice and Public Safety, Virginia Commonwealth University, 816 West Franklin Street, Richmond, VA 23284, (804) 257-1050.

Application forms and other material may be obtained from the School of Graduate Studies Virginia Commonwealth University, Box 568, MCV Station, Richmond, VA 23298.

PROGRAM OPTIONS

INTERVENTION/PREVENTION OPTION

| | <i>Credits</i> |
|--|----------------|
| AJP 501' Behavior and Justice System | |
| Intervention | 3 |
| AJP 502' Judicial Process and Intervention . . . | 3 |
| AJP 511 Research and Evaluation in | |
| Administration of Justice | 3 |
| RCO 611 Principles, Methods, and Techniques | |
| in Rehabilitation Counseling | 3 |
| RCO 612 Principles, Methods, and Techniques | |
| in Rehabilitation Counseling (Group | |
| Methods) | 3 |
| AJP 555 Community-Based Corrections | 3 |
| AJP 600 Seminar: Innovations in | |
| Administration of Justice | 3 |
| AJP 691 Independent Study | 3 |
| Select two | 6 |
| AJP 525 International Crime Control And Prevention | |
| (3 credits) | |
| AJP 611 Delivery of Services in Administration of | |
| Justice (3 credits) | |
| AJP 621 Prevention and Diversion in Administration | |
| of Justice (3 credits) | |
| AJP 625 Managing Community Resources | |
| Toward Diversion | |
| AJP 655 Planning and Politics of Community- | |
| Based Corrections (3 credits) | |
| AJP 661 Case Management in Justice and Public | |
| Safety (3 credits) | |
| Recommended Electives | 6 |
| | 36 |

Recommended Electives:

AJP 574 Correctional Institution Development and Design
AJP 660 Public Safety: Legal Systems
EDU 571 Education of Self

PSY 507 Abnormal Psychology
PSY 508 Forensic Psychology
PSY 509 Personality
PSY 511 Survey of Psychological Tests
PSY 623 Counseling and Psychotherapy
PSY 630 Social Psychology
RCO 521 Overview of Alcoholism
RCO 607 Community Resources
RCO 625 Measurement and Evaluation in
Rehabilitation
RCO 655 Seminar in Rehabilitation
SOC 620 Criminology
SOC 630 Social Psychology

PROGRAM MANAGEMENT OPTION

| | <i>Credits</i> |
|--|----------------|
| AJP 501' Behavior and Justice System | |
| Intervention | 3 |
| AJP 502' Judicial Process and Intervention . . . | 3 |
| AJP 511 Research and Evaluation in | |
| Administration of Justice | 3 |
| AJP 611 Delivery of Services in Administration | |
| of Justice | 3 |
| AJP 631 Public Safety: Administrative Trends | |
| and Issues | 3 |
| AJP 600 Seminar: Innovations in | |
| Administration of Justice | 3 |
| AJP 691 Independent Study | 3 |
| Select three | 9 |
| AJP 525 International Crime Control and Prevention | |
| (3 credits) | |
| AJP 555 Community-Based Corrections | |
| AJP 574 Correctional Institution Development and | |
| Design (3 credits) | |
| AJP 612 Public Safety: Policy Issues in the | |
| Administration of Justice (3 credits) | |
| AJP 621 Prevention and Diversion in Administration | |
| of Justice (3 credits) | |
| AJP 622 Public Safety: Comparative Systems (3 | |
| credits) | |
| AJP 655 Planning and Politics of Community-Based | |
| Corrections (3 credits) | |
| AJP 660 Public Safety: Legal Systems (3 credits) | |
| AJP 661 Case Management in Justice and Public | |
| Safety (3 credits) | |
| Recommended Elective | 6 |
| | 36 |

Recommended Elective:

BUS 509 Governmental Accounting
BUS 643 Administrative Systems
BUS 660 Business Information Systems
EDU 645 Public Relations Principles (2 credits)
PAD 601 Introduction to Public Administration
PAD 607 Personnel Administration in Governmental
Organizations
PAD 621 Organizational Behavior and Management
in Government
PAD 631 Financial Management and Budgeting in
Government
PAD 641 Analytic and Evaluative Methods in Public
Administration
RCO 607 Community Resources
SOC 610 Complex Organizations
SOC 615 Seminar in Mass Communications

¹For those with appropriate undergraduate preparation, an additional six hours of approved elective credit may be substituted.

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SOC 620 Criminology
 URP 511 Urban Public Policy-Making Processes
 URP 512 Metropolitan and Regional Public Management
 URP 522 Programming and Budgeting
 URP 531 Introduction to Urban and Regional Planning
 URP 671 Planning Methods I: Planning Information Systems and Research Design
 URP 672 Planning Methods II: Plan Formulation Implementation Strategies

RESEARCH AND EVALUATION OPTION

| | <i>Credits</i> |
|---|----------------|
| AJP 501 ¹ Behavior and Justice System Intervention | 3 |
| AJP 502 ¹ Judicial Process and Intervention | 3 |
| AJP 511 Research and Evaluation in Administration of Justice | 3 |
| AJP 512 Advanced Research and Evaluation | 3 |
| AJP 600 Seminar: Innovations in Administration of Justice | 3 |
| AJP 699 Thesis | 6 |
| SOC 608 ² Advanced Statistical Methods (3 credits) Select three. | 9 |
| AJP 525 International Crime Control and Prevention (3 credits) | |
| AJP 555 Community-Based Corrections (3 credits) | |
| AJP 574 Correctional Institution Development and Design (3 credits) | |
| AJP 611 Delivery of Services in the Administration of Justice (3 credits) | |
| AJP 621 Prevention and Diversion in Administration of Justice (3 credits) | |
| AJP 622 Public Safety: Comparative System | |
| AJP 655 Planning and Politics of Community-Based Corrections (3 credits) | |
| AJP 660 Public Safety: Legal Systems (3 credits) | |
| Recommended Electives. | 6 |
| | 36 |

Recommended Electives:

CSC 501 Data Structures
 CSC 503 Programming Language
 CSC 504 Compiler Construction
 CSC 505 Computer Organization
 PSY 511 Survey of Psychological Tests
 PSY 627 Statistics in Psychological Research
 PSY 643 Principles of Psychological Measurement
 SOC 600 Advanced Principles of Sociology
 SOC 601 Advanced Methods of Social Research
 SOC 602 Seminar in Sociological Theory
 SOC 620 Seminar in Criminology
 SOC 622 Theory Construction
 BUS 564 Complex Information Systems
 BUS 566 Computer Performance Analysis
 BUS 632 Statistical Analysis
 BUS 645 Operations Research
 BUS 661 Information Systems Development
 PAD 623 Analytical and Evaluations Methods in Public Administration
 PAD 627 Policy Analysis Research

¹An applied social science statistics course may be substituted for SOC 608.

URP 671 Planning Methods I: Planning Information System and Research Design

MANPOWER DEVELOPMENT (EDUCATION AND STAFF TRAINING) OPTION

| | <i>Credits</i> |
|---|----------------|
| AJP 501 ¹ Behavior and Justice System Intervention | 3 |
| AJP 502 ¹ Judicial Process and Intervention | 3 |
| AJP 511 Research and Evaluation in Administration. | 3 |
| AJP 621 Prevention and Diversion in Administration of Justice | 3 |
| AJP 600 Seminar: Innovations in Administration of Justice | 3 |
| AJP 691 Independent Study | 3 |
| Select three. | 9 |
| AJP 525 International Crime Control and Prevention (3 credits) | |
| AJP 555 Community-Based Corrections (3 credits) | |
| AJP 574 Correctional Institution Development and Design (3 credits) | |
| AJP 611 Delivery of Services in Administration of Justice (3 credits) | |
| AJP 612 Public Safety: Policy Issues in the Administration of Justice (3 credits) | |
| AJP 622 Public Safety: Comparative Systems (3 credits) | |
| AJP 625 Managing Community Resources Toward Diversion | |
| AJP 631 Public Safety: Administrative Trends and Issues (3 credits) | |
| AJP 655 Planning and Politics of Community-Based Corrections (3 credits) | |
| AJP 660 Public Safety: Legal Systems (3 credits) | |
| AJP 661 Case Management in Justice and Public Safety (3 credits) | |
| Select one: | 3 |
| EDU 687 The Adult Learner (3 credits) | |
| EDU 688 Instructional Strategies for Adults (3 credits) | |
| EDU 698 Adult Education Seminar (3 credits) | |
| Recommended Electives. | 6 |
| | 36 |

Recommended Electives:

EDU Preparation of Educational Materials
 EDU 649 Utilization of Educational Media and Materials
 EDU 686 The Adult Education Movement
 EDU 694 The Community College, Its History and Development
 EDU 696 Adult Program Management and Evaluation
 SOC 620 Criminology

GRADUATE COURSES IN ADMINISTRATION OF JUSTICE (AJP)

501 Behavior and Justice System Intervention. Semester course; 3 lecture hours. 3 credits. A survey of factors associated with human behavior as related to crime prevention and justice system intervention. Emphasis is placed on the sociopath, aggressive offender, sub-cultural client of the justice system, and the youthful

delinquent. (Graduates of appropriate undergraduate curricula may obtain permission to substitute this course.)

502 Judicial Process and Intervention. Semester course; 3 lecture hours. 3 credits. A survey of the theoretical and historical foundations of juvenile and criminal law, American judicial system, and system intervention. Includes review of juvenile and criminal courts, issues related to placement and sentencing practices, and relationship of the legal process to prevention and intervention. (Graduates of appropriate undergraduate curricula may obtain permission to substitute this course.)

511 Research and Evaluation in Administration of Justice. Semester course; 3 lecture hours. 3 credits. Examination of juvenile and criminal justice research and evaluation, emphasizing principles of design, methodology, analysis, and interpretation of data. Ascertains the reliability, validity, and applicability of justice system research.

512 Advanced Research and Evaluation. Semester course; 3 lecture hours. 3 credits. Exploration of more sophisticated justice system research techniques and methodologies. Students design methods of applying research and evaluation principles to actual operational problems in the justice and safety systems.

525 International Crime Control and Prevention. Semester course; 3 lecture hours. 3 credits. An analytical study of the United Nations, Interpol, the World Court, and other crime control and prevention agencies, operating on the international scene and an examination of new, emerging types of crimes throughout the world. Exploration of etiological factors related to international criminality. Review of planning and world models for crime reduction/prevention.

555 Community-Based Correctional Programs. Semester course; 3 lecture hours. 3 credits. A comprehensive overview of community correctional programs is offered. Probation and parole are covered in detail.

574 Correctional Institution Development and Design. Semester course; 3 lecture hours. 3 credits. Examines the various concepts, theories, and techniques involved in development of modern correctional treatment processes as they influence design of correctional institutions, including community-based facilities. Students analyze current designs and architectural innovations in corrections, with major consideration directed toward the national standards for correctional architecture.

600 Seminar: Innovations in Administration of Justice. Semester course; 3 lecture hours. 3 credits. Seminar in administration of justice topics, including new intervention and prevention techniques, victimization and data analysis, impact of juvenile and correctional law and court decisions, and other current pertinent issues. (One semester required for all graduate students; may be repeated once as an elective).

611 Delivery of Service in Administration of Justice. Semester course; 3 lecture hours. 3 credits. Analyzes contemporary and innovative practices in delivery of public safety services with emphasis on administrative, organizational, and management principles. Includes discussion emphasis on managing change and long-

range planning within juvenile justice, criminal justice, and public safety agencies or programs.

612 Public Safety: Policy Issues in the Administration of Justice. Semester course; 3 lecture hours. 3 credits. Examines critical public policy issues relating to the administration of justice in terms of society's interests. Emphasizes policy and planning implications of: interagency relationships, the impact of social change in the criminal justice process, and community involvement in the control and prevention of crime in an urbanized society. Special attention is directed to the distribution of crime and disturbance, the development of public safety indicators, and the alternative for governmental response.

621 Prevention and Diversion in Administration of Justice. Semester course; 3 lecture hours. 3 credits. Evaluates recent developments in preventive techniques and strategies related to juvenile delinquency and youthful or adult offenders. Considerable attention devoted to theories and practices associated with diversion of juveniles and adults from the formal justice system, and to workable models for crime and delinquency prevention programs.

622 Public Safety: Comparative Systems. Semester course; 3 lecture hours. 3 credits. Study of contemporary national and international criminal justice and public safety systems, emphasizing their comparative aspects. Critique of major hypotheses; review of recent developments and contributions of operational agencies and academic institutions through projects and research.

625 Managing Community Resources Toward Diversion. Semester course; 3 lecture hours. 3 credits. Views diversions from the juvenile justice system as an unstructured series of subsystems involving various community resources including education, employment, recreation, religion, mental health, and civic groups. The planning and management of these resources toward the common goal of crime and delinquency prevention will be studied, as well as the implication for the resources. Principles and skills developed will be applicable to diversion of adults from the criminal justice system.

631 Public Safety: Administrative Trends and Issues. Semester course; 3 lecture hours. 3 credits. Examines administrative behavior and organizational theory in criminal justice and public safety agencies. Analyzes substantive administrative concepts, program planning and development, and innovative management practices.

655 Public Safety: Planning and Politics of Community-Based Corrections. Semester course; 3 lecture hours. 3 credits. Examines the process of planning community-based correctional programs. Administrative problems related to budgeting, staffing, and managerial policymaking are considered. Political considerations in introducing innovative correctional programs which involve the community and criminal justice agencies are reviewed as part of the planning process.

660 Public Safety: Legal Systems. Semester course; 3 lecture hours. 3 credits. Comparative study of the formal and informal procedures of various criminal justice

systems. Examines the major constraints and authorizations of the legal and judicial systems on arrest, prosecution, trial, sentencing, appeal, and the general operations of the criminal justice system.

661 Case Management in Justice and Public Safety. Semester course; 3 lecture hours. 3 credits. Discussion of concepts, processes, and implications related to determination and implementation of management philosophies and strategies for achieving productivity and accountability within justice and safety agencies. Individual priority needs of the citizen/client are assessed and compared with concern for public safety, costs, and other administrative factors.

691 Independent Study in Administration of Justice. Semester course; 3 credits. Prerequisite: permission of department chairman. Readings, individual research, or field placement in juvenile or criminal justice agencies. Completion of this course requires a research project on an issue pertinent to the student's graduate program needs and career interests.

699 Thesis. 3 or 6 credits. Prerequisite: permission of instructor and appropriate research courses.

Department of Public Administration

FACULTY

Professor: Henry (Dean)
Associate Professors: Grosenick (Chairman); Fairholm; Hambrick
Assistant Professors: Armstrong; Binder; Oliver; Pignato

The emphasis of the graduate degree in public administration is to professionally educate the individual in the responsibilities of public sector administration.

The program is generalist in nature: thus, 31 of the 45 credit hours are devoted to a core curriculum of required courses. Students may use 14 hours to pursue an area of interest; however, a specialization is not required and these 14 hours may be used to pursue additional generalist courses. A three hour practicum in a non-profit agency or a governmental organization providing public services completes the program.

CORE CURRICULUM

In the generalist portion of the program, four broad areas of course work are offered in order to strike a balance between theory and application. These are:

- I. The political, social, and economic context of public administration.
- II. Public organization management processes, and behavior.

III. Quantitative and non-quantitative analytic tools.

IV. Policy analysis.

SPECIALIZATION OPTION

Each student can select an area for specialization following completion of the first 12 hours of course work. The public administration program offers specializations in personnel, finance, economics, general management, policy analysis, and local government. Additional specialization fields may be developed to suit the individual student's needs. This is done in conjunction with other VCU departments, such as Administration of Justice and Public Safety, Urban and Regional Planning, Social Work, and Economics. Specializations must be approved by the student's faculty advisor.

Human Resources-Manpower Development Concentration

In cooperation with the Center for Public Affairs and the U.S. Department of Labor a 15 hour concentration in human resources-manpower development is now available. For further details contact the Department of Public Administration.

ADVISORY COMMITTEE FOR THE GRADUATE PROGRAM IN PUBLIC ADMINISTRATION

The graduate program in public administration is multidisciplinary in nature and draws upon the resources of several schools within the university. Members of the university faculty as well as practicing public administrators on the federal, state, and local levels serve on the Advisory Committee for the Graduate Program in Public Administration. This committee serves in an advisory capacity, offering advice and suggestions to the director and faculty regarding the policies, procedures, curriculum, and other matters pertaining to the administration of the program.

ADMISSIONS

In addition to the general requirements listed on page 143, selection is made on the basis of undergraduate academic performance, intellectual capacity, accomplishments, experience, and other indicators of

the ability to pursue graduate studies profitably.

Interview

A personal interview with the public administration faculty is required. If this poses a hardship, the chairman will designate an alternate method for the pre-acceptance interview.

Full Acceptance

Students accepted in full standing must have a minimum of 3.0 grade point average on a 4.0 scale in their last 60 (semester) hours of undergraduate work and a total score of at least 1,000 on the Graduate Record Examinations (GRE), or 500 on the Graduate Management Admissions Test, or 500 on the Law School Admissions Test.

Individuals with Advanced Degrees

Persons holding advanced degrees from fully accredited institutions of higher education may be given full admittance without reservations upon presentation of evidence of the award of an advanced degree. Although this does not eliminate any step in the admissions procedure outlined previously, it does relieve the applicant of the necessity of submitting GRE results.

ADMISSIONS REVIEW COMMITTEE

Recommendations for admissions will be made by a four-member Admissions Review Committee composed of university faculty and public service employees, who also serve as members of the Advisory Committee for the graduate program in public administration.

TRANSFER CREDIT

A maximum of six semester hours of acceptable graduate credit earned in a degree program at an accredited institution but not applied towards an awarded degree may be transferred and applied toward the M.P.A. degree. Such credits will be evaluated for acceptance purposes at the completion of nine semester hours of work in VCU's graduate program in public administration.

FINANCIAL AID INFORMATION

Small amounts of financial aid are available through awards made by the university through the School of Community and Public Affairs. Notice of the availability of these funds will be mailed to students and applicants when such awards are made.

REQUIREMENTS FOR THE DEGREE OF MASTER OF PUBLIC ADMINISTRATION

(In addition to those listed on page 143.)

1. A student must complete a minimum of 45 semester hours, as approved by the faculty advisor with an overall grade-point average of 3.0 or above.
2. **Practicum.** Each student not appropriately employed in the public sector or in a non-profit agency while enrolled in the program will be required to earn three hours of credit in a public service practicum. The practicum will usually be taken during the summer between the first and second years or during the last semester of course work. However, the scheduling of the practicum will be flexible enough to accommodate the needs of those students who pursue the degree on a part-time basis.

All practicums will be negotiated between the university and the host agency in terms of the scope of work to be performed by the student; the type and extent of supervision both within the agency and from the university; and, the stipend, if any, to be attached to the internship. Based on such negotiations, a learning contract will be executed among the university, the agency, and the student.

For students who have been continuously employed in a governmental agency for a period of two years or more, the practicum is waived. These students are required to complete PAD 680, Advanced Executive Leadership, in lieu of the practicum.

CONTINUOUS ENROLLMENT REQUIREMENTS

Any student who fails to register for two consecutive semesters (summer sessions ex-

cluded) will automatically be dropped from the program and must reapply for admission in order to continue. Students who drop all courses during a regular term will not be counted as having registered for that term. Any exceptions to this policy will be made on an individual basis and by petition, whenever the department is notified in writing either prior to the beginning of a term or when a continuous absence is occasioned by hardship conditions. Students who reapply after having been dropped for failure to register continuously will be admitted, if at all, under the bulletin requirements in effect at the time of readmittance. This means that some or all of the courses completed prior to the reapplication may not be accepted toward completion of the degree.

**CORRESPONDENCE AND
FURTHER INFORMATION**

Further information and appropriate forms may be obtained by writing to the School of Graduate Studies, Virginia Commonwealth University, Box 568, MCV Station, Richmond, VA 23298 (804) 286-0347.

**CORE CURRICULUM
(REQUIRED COURSES)**

First Phase

| | |
|--|---|
| PAD 601 Principles of Public Administration . . | 3 |
| PAD 606 Governmental Organizational Models . | 3 |
| PAD 607 Personnel Administrations in Governmental Organizations | 3 |
| PAD 609 Government Financial Management . . | 3 |

Second Phase

| | |
|---|---|
| URP 671 Planning Methods I: Planning Information Systems and Research Design . . | 4 |
| URP/PAD 652 Planning, Administration, and the Legal Process (Prerequisite: PAD 601) . . . | 3 |
| PAD 621 Organizational Behavior and Management in Government (Prerequisite PAD 606) | 3 |

Third Phase

| | |
|--|----------|
| PAD 623 Analytic and Evaluation Methods in Public Administration (Prerequisite: URP 671) | 3 |
| PAD 625 Public Public Policy Formulation and Implementation (Prerequisite: URP 671) . . . | 3 |
| PAD 680 Executive Leadership (Prerequisite PAD 621) | 3 |
| | <u>3</u> |
| | 31 |

| | |
|--------------------------------------|-----------|
| ELECTIVES OR CONCENTRATION | 14 |
| | <u>45</u> |

May be chosen from any additional public administra-

tion courses, or other related courses offered by academic departments at VCU.

CONCENTRATION OPTION

The elective portion of the curriculum is designed to accommodate the professional development needs of the individual student. To achieve this the student may elect to take a variety of courses to improve a range of administrative skills and understandings; or a concentration track can be chosen to develop graduate professional skills and understandings in one of six major areas of governmental responsibility. These are:

- Public Personnel Management
- Public Financial Management
- Local Government Management
- Executive Management
- Human Resource Program
- Management
- Evaluation and Public Policy
- Analysis

Public Personnel Management

A concentration curriculum designed to give students the knowledge, skills, and abilities to operate and manage public agency functions professionally and contribute to the product of new knowledge and management practice in the public management field.

| Required Courses | Credits |
|---|----------|
| PAD 637 Organic Public Personnel Management | 3 |
| BUS 646 Personnel Law | 3 |
| PAD 682 Advanced Public Personnel Management | 4 |
| Electives (PAD, BUS, ECO, EDU) | <u>4</u> |
| | 14 |

Public Financial Management

This concentration is directed toward professional and theoretical competence in the various component fields of public financial operations. Technical, supervisory, and general financial management competencies are emphasized.

| Required Courses | Credits |
|---|----------|
| PAD 622 Public Sector Budgeting | 3 |
| PAD 670 Advanced Financial Management . . . | 3 |
| ECO 616 Advanced Public Finance | 3 |
| Electives (PAD, BUS, EDU) | <u>5</u> |
| | 14 |

Local Government Management

This concentration prepares individuals for generalist management positions at the town, city, county, and regional levels of government through the completion of courses relating to local government services and management, understanding the political, sociological, and economic environments of local governments, and the special problems of managing a complex public organization.

| Required Courses | Credits |
|--|---------|
| PAD 664 Local Government Administration I: Organization and Staff Functions | 3 |
| PAD 666 Local Government Administration II: Line Functions | 3 |
| Electives (PAD, BUS, EDU, SOC, ECO, URP) | 8 |
| | 14 |

Executive Management

This concentration is especially tailored to the needs of the public executive to assist him or her in the development of productive leadership styles, decision making abilities, and careful consideration of ethical issues in service delivery and management.

| Required Courses | Credits |
|--|---------|
| PAD 680 Executive Leadership | 3 |
| PAD 681 Governmental Decision Making | 3 |
| PAD 690 Administrative Ethics | 3 |
| Electives (PAD, BUS, PSY, EDU) | 5 |
| | 14 |

Human Resources Program Management

This concentration is oriented to the public manager or policy analyst preparing for a career in the management of governmental programs which focus on the delivery of human services. Programs having a primary or secondary function related to training and employment are emphasized.

| Required Courses | Credits |
|--|---------|
| PAD 643 Public Employment Policy Analysis | 3 |
| PAD 644 Human Resource Program Management | 3 |
| Electives (PAD, ECO, EDU) | 8 |
| | 14 |

Evaluation and Public Policy Evaluation Concentration

This concentration provides students with the necessary methodological and program background to analyze governmental policy, recommend new approaches and applications, and generally perform at a high level as a program analyst and evaluator. Policy options are available in four policy areas.

Students must have the permission of the cooperating departments for policy area concentrations.

| Required Courses | Credits |
|---|---------|
| PAD 650 Workshop in Evaluation | 3 |
| PAD 627 Policy Analysis Research | 3 |
| PAD 629 Workshop in Policy | 3 |
| Policy Area Options | |
| Administration of Justice and Public Safety | 8 |
| Economics | 8 |
| Social Work | 8 |
| Urban And Regional Planning | 8 |

GRADUATE COURSES IN PUBLIC ADMINISTRATION (PAD)

501 Executive Structures and Management Processes. Semester course; 3 lecture hours. 3 credits. An intensive examination of the executive processes in American government. Compares and contrasts the functional responsibilities of the executive branches of American government, including budget, personnel, regulatory functions, policy implementation, rule making, organizational structure and evaluation within a management framework. Course credits do not apply to the M.P.A. degree.

601 Principles of Public Administration. Semester course; 3 lecture hours. 3 credits. An examination of current thought and research on management theory and organizational behavior in government will be presented in this course. Theory and research from diverse sources, i.e. government, sociology, social psychology, and industrial psychology will be explored to provide each student with the conceptual framework necessary for the development or refinement of effective governmental management skills.

607 Personnel Administration in Governmental Organizations. Semester course; 3 lecture hours. 3 credits. Prerequisite: departmental permission. The general concepts, principles, and techniques of personnel administration and employee relations as applied in governmental units and agencies.

609 Financial Management in Government. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of the department. The general concepts, principles, and techniques of financial management as they are applied in governmental units and agencies.

610 The Municipal Property Tax. 1 lecture hour. 1 credit. Prerequisite: PAD 609 or permission of the department. An in-depth study of the property tax. The property tax system as administered in Virginia is analyzed. New approaches to ameliorate problems with this tax are proposed.

611 Revenue and Expenditure Forecasting. 1 lecture hour. 1 credit. Prerequisite: PAD 609 or permission of the department. Analysis of the methods and techniques of revenue and expenditure forecasting and of their use in budgeting planning and capital programming. Relationships between forecasting, capital improvement, budgeting and overall government budgeting, planning, and managing systems are developed and elaborated.

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612 Government Purchasing. 1 lecture hour. 1 credit. Prerequisite: PAD 609 or permission of the department. Provides the purchasing agent or the student of finance with working tools to improve public purchasing practices in state and local government agencies including: organizing for purchasing processes and practices in government and special problems and emerging concerns in purchasing management.

613 Risk Management for State and Local Government Officials. 1 lecture hour. 1 credit. Prerequisite: PAD 609 or permission of the department. Normal and extraordinary hazards associated with public organizational management are defined. Identification of measurement devices of "risk of loss" and methods of dealing with loss—prevention, minimization, and remediation—will be covered.

614 Finance and Accounting for the Nonfinancial Executive. 1 lecture hour. 1 credit. Provides orientation to the proper financial tools, ratios, and relationships in accounting for the financial status of the public enterprise. The emphasis is on how to analyze and interpret financial documents.

615 Debt Management for Local Government. 1 lecture hour. 1 credit. Prerequisites: PAD 609 or permission of instructor. Analyze the complex processes involved in managing temporarily idle public funds. Basic and advanced procedures of financial control and planning processes are explained and the use of relevant financial tools used in this field of public finance are taught.

616 Capital Budgeting. 1 lecture hour. 1 credit. Prerequisite: PAD 609 or permission of the department. Teaches the tools of capital budget preparation including cost estimation, discounting, debt management, and cost benefit analysis in the capital programming process.

617 Financial Administration in Virginia State Government. 1 lecture hour. 1 credit. Describes and explains the specifics of the Virginia state system of financial administration. Students will be acquainted with both the theoretical and legal bases of financial administration in Virginia. Emphasis will also be on understanding of responsibility of the various organizations in financial administration and the processes each carries out.

618 Federal Indirect Costs Administration. 1 lecture hour. 1 credit. Prerequisite: PAD 609 or permission of the department. Describes and explains the concept of indirect costs as used in federal grants financing. Federal and state regulations are explained and procedures for recording, analyzing, reporting, and claiming reimbursement will be presented.

619 Management Auditing in Government. 1 lecture hour. 1 credit. The methods and approaches used in evaluating the adequacy and appropriateness of management controls and the ways in which they are applied in the public agency are examined from operational, management, and performance measurement perspectives.

621 Organizational Behavior and Management in Government. Semester course; 3 lecture hours. 3 credits. Prerequisite: PAD 606. The general concepts, principles, and theories of management and organiza-

tional behavior as they relate to the administration of governmental units and agencies.

622 Public Sector Budgeting. Semester course; 3 lecture hours. 3 credits. Prerequisite: PAD 609. Advanced theory and practice of public agency budgeting. In-depth examination of the role of budgeting in the decision-making process and its impact on policy making. Topics include: alternative budgeting systems, capital planning and budgeting, budget execution, budgeting analysis techniques, and revenue and expenditure forecasting.

623 Analytical and Evaluation Methods in Public Administration. Semester course; 3 lecture hours. 3 credits. Prerequisites: URP 671 and permission of the department. A survey of current applications of analytical and evaluative methods of government programs. The course includes the primary methods of evaluating social, financial, and physical programs. Attention is given to individual student program interests. This course relates directly to PAD 625 and PAD 631.

625 Public Formulation and Implementation. Semester course; 3 lecture hours. 3 credits. Prerequisites: URP 671 and PAD 606. A consideration of the general modes of decision-making, determination of program goals, allocation of resources, selection of efficiency criteria. Translation of public policy into programmatic functional activities. Classification and examination of various service delivery systems.

627 Policy Analysis Research. Semester course; 3 lecture hours. 3 credits. Prerequisites: PAD 623 and 625. The conduct of policy research. The application of research phases including: problem identification, evaluation of goals, results planning, methodology utilization, interpretation of results, and presentation of policy recommendations.

629 Workshop in Policy Analysis. Semester course; 3 hours. 3 credits. Making policy analysis work. Emphasizes the use of three policy analysis techniques: program analysis, cost benefit analysis, and the utilization of results.

631 Seminar on Public Employee Selection. Semester course; 2 lecture hours. 2 credits. An examination of legislation, sub-legislation, and judicial decisions which define management responsibilities for assuring fair and effective public employee selection will be presented in this course. Course topics include: Federal Uniform Selection Guidelines; the rule of knowledge, skills, and abilities in selection; alternative selection processes; and implementing selection processes.

632 Public Employee Performance Evaluation. Semester course; 2 lecture hours. 2 credits. An examination of theories, approaches and legal constraints associated with the evaluation of public employee performance. In-depth treatment is given to approaches which meet Federal Uniform Selection Guidelines standards. Systems based on job-related task analysis, on MBO, and on psychological testing are reviewed. Assessment center approaches are given major treatment.

636 Personal Liability of Public Employees. Semester course; 2 lecture hours. 2 credits. An examination of the special legal liabilities and immunities of public

employees. Constitutional and tort law are analyzed for personnel liability which affects all public employees with decision-making responsibilities.

637 Organic Personnel Management. Semester course; 3 lecture hours. 3 credits. Prerequisite: PAD 607 or equivalent. An examination of current thought, research, and personnel management theory and practice in government which is person-oriented is presented in this course. Topics include: rank-in-the-person personnel systems; career development, executive personnel systems; forecasting human resource needs; individual-based performance evaluation; employee assistance programs; and special emphasis programs.

642 Grants Management. Semester course; 3 lecture hours. 3 credits. Principles and practices of managing federal and state funds and implementing a grant funded program. Topics include: federal grant making process, applying for a grant, developing grant accounting systems, joint funding, disputes, appeals and remedies, and close-out procedures.

643 Public Employment Policy Analysis. Semester course; 3 lecture hours. 3 credits. History, scope, and setting of employment programs in the U.S. Examines the systemic and individual factors which affect employment and unemployment. Topics include: history of human resource development and manpower policy, the nature of work, the nature of unemployment, governmental employment programming, and public policy issues.

644 Human Resource Program Management. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 641 or equivalent. Advanced analysis of theory and research related to internal and external factors which influence the management and delivery of service in human resource organizations. Topics include: functions of human resource managers, factors influencing service delivery interorganizational coordination, and management of change in human resource organizations.

650 Topics in Public Administration. Semester course; 1, 2, or 3 lecture hours. Variable credit. Prerequisite: permission of instructor. Course may be repeated with different topics for a maximum of 9 credits. An in-depth study of a selected topic in public administration. See Schedule of Classes for specific topic to be offered each semester.

652 Planning, Administration, and the Legal Process. Semester course; 3 lecture hours. 3 credits. Prerequisites: PAD 601 and permission of the department. Major emphases are on administrative law, legislation, and substantive environmental law. Judicial review of administration actions: notice, hearing, investigative requirements; the planner and administrator as expert witnesses; legislative language; drafting of legislation; legislative process; NEPA; air; water; and water-lands; solid waste; herbicides and pesticides; noise; and critical man-made areas are investigated.

660 Community Power Dynamics. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of the department. Examination of the location of power in the American community; operational concepts and general methodological approaches defined; empirical

findings based on various methodological approaches; conclusions on community political systems and power.

662 Advanced Topics in Revenue and Taxation. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 616 or permission of instructor. An advanced examination of governmental revenue and taxation policies, tax incidence, and alternative funding techniques.

664 Local Government Administration I - Organization and Staff Functions. Semester course; 3 lecture hours. 3 credits. Prerequisites: PAD 607 and 609 or permission of the department. An intensive examination of local government staff functions as related to the organization of local governments and their proper management.

666 Local Government Administration II - Line Functions. Semester course; 3 lecture hours. 3 credits. Prerequisites: PAD 664 or permission of the department. An intensive survey of the major functional responsibilities of local government with a special emphasis on the organization, standards, operational imperatives, inter-relationships with other functions, and special management problems of the major line activities of local governments, including small and rural line activities of local governments, including small and rural jurisdictions.

670 Advanced Public Financial Management. 3 lecture hours. 3 credits. Prerequisites: PAD 609, ECO 616, or permission of the department. Brings together specialty aspects of public financial management such as economic and political implications, practical skill-building, operational financial administration issues and tactics, and accounting principles and approaches, and integrates these disparate segments of public finance. The emphasis is on policy-level implications and strategies of public financial management strategies of executive planning, analysis, and management of the financial sector of public organizations.

680 Executive Leadership. Semester course; 3 lecture hours. 3 credits. Prerequisite: PAD 621 or permission of the department. Explores the aspects of executive leadership and the leader as an agent of change in the organization and among the management core. The emphasis is on research and writing.

681 Governmental Administrative Decision Making Processes. Semester course; 3 lecture hours. 3 credits. Identification of alternative decision making processes in public sector management environments. Choosing the proper method for the appropriate management level theory and method for controlling administrative decisions within governmental organizations. Dealing with political, budgetary, and personal constraints in achieving organizational goals.

682 Advanced Public Personnel Management. Semester course; 4 lecture hours. 4 credits. Prerequisite: PAD 607 or equivalent. Public personnel management is analyzed in process and systems' perspectives, with specific emphasis on the interrelatedness of discrete system components with other systems. Attention is given to the integration of personnel elements through the development of feed-back systems, positive and negative im-

pacts' analyses and personnel policy development and implementation.

690 Administrative Ethics. Semester course; 2 or 3 lecture hours. 2 or 3 credits. The philosophical basis for ethical behavior; nature and administration of legal codes of professional conduct; administrative secrecy; social equity through public programs; the complexity of the relationship between administratively ethical decisions and political culture; and a review of the literature on public service morality.

698 Directed Research in Public Administration. Semester course; 1 to 6 credits. Prerequisite: permission of instructor. Independent research into public administration problems, issues, applications, and theories related to student's field of concentration.

699 Public Administration Internship. 3 credits. Prerequisite: permission of instructor. A professional internship in public service.

Department of Recreation

FACULTY

Professors: Hartsoe (Chairman); Hormachea
Associate Professors: Reynolds; Wise
Assistant Professors: Howell, Ready

The purpose of the graduate program in recreation is to prepare administrators, supervisors, and other recreation and park personnel for specialized or advanced responsibilities in public, quasi-public, and/or private agencies engaged in providing recreational and leisure services and programs. The curriculum provides for experiential learning through the analysis of organizations' and communities' leisure service delivery systems and seeks to improve the quality of life for today's urban dweller.

The master's degree in recreation requires a minimum of 36 semester hours of graduate study, including a thesis or research project. The courses are grouped as follows:

A. A core of departmental courses required of all students in the program.

This component of the program includes 15 semester hours of required courses designed to equip students with an advanced knowledge of the historical, philosophical, and scientific basis of the recreation and parks field. The seminar in recreation addresses contemporary issues in each of the three areas of concentration within the program and provides an opportunity for independent study. Thesis or project requirements provide additional experience in analysis and problem solving, plus the generation of new knowledge related to the

provision of leisure services in today's urban environment.

Specific courses within the core curriculum are as follows:

REC 601 Conceptual Foundations of Recreation and Leisure Services (3 semester hours)

REC 603 Research and Evaluation—Processes in Recreation (3 semester hours)

REC 610 Seminar in Recreation (3 semester hours)

REC 701 Thesis (6 semester hours)

or

REC 702 Project Research in Recreation (6 semester hours)

Also, course(s) in inferential statistics for the behavioral and social sciences will be required of students who have not had previous preparation in these techniques.

B. Sets of required foundation courses for each of three optional areas of concentration: leisure service management, recreation and tourism planning, and therapeutic recreation.

In addition to the basic core, each student will develop specialized knowledge and professional competence in one of three areas of concentration. A description of each area and its six semester hour foundation module is as follows:

Leisure Service Management. This area is designed for students who wish to expand their professional preparation for general administration and leadership in governmental or quasi-private leisure service organizations.

Required courses include:

REC 602 Organization and Administration of Recreation Systems (3 semester hours)

REC 604 Program Management and Development (3 semester hours)

Therapeutic Recreation. This area of specialization is for students who wish to undertake advanced study in preparation for careers in leadership and supervision of recreation programs for disabled persons in residential or community settings. An emphasis is placed on the factors influencing the provision of leisure services for disabled persons in modern society. Required courses include:

REC 605 Program Development in Leisure Services for Disabled Persons (3 semester hours)

REC 606 Current Issues in Leisure Services for Disabled Persons (3 semester hours)

Recreation and Tourism Planning. The emphasis of this option is toward developing competencies in the analyzing, planning, and marketing of recreation, park, and tourism

facilities. The implications and study of total environmental impacts both positive and adverse, are of growing concern to community planners and the travel industry. Therefore, opportunities for theoretical and applied research into the interrelationships of community leisure services planning with community economic development, using tourism as a major tool, abound. Required courses include:

REC 608 Analysis and Planning for Recreation and Tourism (3 semester hours)

URP 671 Planning Methods I: Planning Information Systems and Research Design (4 semester hours)

C. Supportive courses chosen according to the area of concentration.

Each of the three previously described areas of concentration is designed to incorporate multidisciplinary preparation utilizing the supportive resources of the School of Community and Public Affairs as well as other units of the university. Fifteen hours of course work in related disciplines will be selected with the consent of the student's academic advisor.

Admission Requirements

Admission requirements for the Master of Science degree in recreation include a cumulative grade-point average of 2.5 (C+) or better in the applicant's undergraduate work and a 3.0(B) in the last two full years of undergraduate study; acceptable scores on the verbal, quantitative, and analytical tests of the Graduate Record Examination; and evidence of adequate undergraduate preparation in recreation or a closely related area. In the absence of such academic background and/or experience, the applicant may be required to enroll in appropriate undergraduate level courses without graduate credit. Applicants will be evaluated individually by the departmental graduate faculty committee. Minimum admission requirements as outlined above constitute the basis for the evaluation.

CORRESPONDENCE AND FURTHER INFORMATION

For additional information and applications please contact: School of Graduate Studies, Virginia Commonwealth University, Box 568, MCV Station, Richmond, VA 23298, (804) 786-0347.

GRADUATE COURSES IN RECREATION (REC)

601 Conceptual Foundations of Recreation and Leisure Services. Semester course; 3 lecture hours. 3 credits. A study of the development of the recreation and leisure services movement in the United States. Attention will be given to the historical, philosophical, and social bases of recreation and leisure services in today's society. Implications for present and future leisure service delivery planning will be emphasized.

602 Organization and Administration of Recreation Systems. Semester course; 3 lecture hours. 3 credits. An analysis of administrative theories and patterns of management appropriate to the establishment and operation of community leisure service programs. Special emphasis will be given to organizational planning, goal setting, financial support, program evaluation, and the role of the administrator in a leisure service setting.

603 Research and Evaluation Processes in Recreation. Semester course; 3 lecture hours. 3 credits. Familiarizes student with the scientific approach to inquiry as applied to the study of the phenomenon of leisure. Basic research terminology, methodology, procedures, and concepts are explored with particular reference to the application of empirical investigation to topics of interest to professionals in the field of recreation and parks.

604 Program Development and Management. Semester course; 3 lecture hours. 3 credits. Analysis of the individual, political, and societal determinants of recreation programming. Covers the factors influencing leisure behavior and the role of the program supervisor in recreational and leisure service settings. The course also deals with the evaluation of recreation and park programs and with the research functions in recreation programming.

605 Program Development in Leisure Services for Disabled Persons. Semester course; 3 lecture hours. 3 credits. This course will provide students with an opportunity to critically examine contemporary models of leisure service programming for disabled persons. Emphasis will be placed upon observation and analysis of medical-clinical custodial, therapeutic community/milieu, and education and training approaches to recreation for handicapped persons.

606 Current Issues in Leisure Services for Disabled Persons. Semester course; 3 lecture hours. 3 credits. An examination of contemporary issues affecting the delivery of leisure services and programs to disabled persons. Both the scope and nature of leisure opportunities available to disabled individuals are considered. Special emphasis is placed on the role of the municipal recreation department in providing leisure opportunities to disadvantaged groups.

608 Recreation and Tourism Planning. Semester course; 3 lecture hours. 3 credits. Analysis and planning of recreation and tourism resources in the development of an effective comprehensive leisure services delivery system.

610 Recreation Seminar. Semester course; 3 lecture

hours. 3 credits. Restricted to second semester graduate students who have completed the research methods course. Individual graduate thesis and research topics will be discussed as will topics of current specialized interest to the recreation field. Each student will review and report on research efforts related to specific problems in their own area of interest.

701 Thesis. 6 credits. Prerequisite: REC 603. The master's thesis involves a carefully planned and executed research study under the supervision of an advisor and thesis committee utilizing the traditional standards for thesis writing.

702 Research Project. 6 credits. Prerequisite: REC 603. The research project involves a systematically planned and executed scholarly project under the supervision of an advisor and project committee utilizing an approved methodology for investigating and reporting on a major issue pertinent to the student's interest in the recreation field.

Department of Rehabilitation Counseling

FACULTY

Professors: Hardy (Chairman); Lassiter; Wright
Associate Professors: Jarrell; Rule
Assistant Professors: Chandler; Gandy; Harber;
Hutchinson; Lawton; Luck; Thralls; Underwood

The rehabilitation counseling program at Virginia Commonwealth University was established in 1955 to provide graduate education in rehabilitation counseling.

This program prepares prospective rehabilitation counselors for employment in state and federal vocational rehabilitation programs and public and private rehabilitation agencies. Graduates work in rehabilitation units in mental hospitals, correctional institutions, public schools, rehabilitation centers, sheltered workshops, adjustment centers, social service agencies, and other organizations serving persons who are mentally, emotionally, socially, or physically handicapped. It also provides advanced training for persons presently employed in agencies and facilities offering services to handicapped individuals.

Emphasis is placed upon professional education for developing the skills and knowledge necessary for effective rehabilitation counseling of handicapped persons. The variety of activities performed by rehabilitation counselors necessitates a program highly diversified in character. In addition to the development of a broad understanding of human behavior, techniques of individual and group counseling, inter-professional

relations, vocational appraisal and adjustment, and use of community resources in facilitating rehabilitation of mentally, emotionally, socially, and physically handicapped persons are stressed.

VOCATIONAL EVALUATION AND WORK ADJUSTMENT SPECIALIZATION

This program emphasis is established to meet the following needs: 1) to provide students (full- or part-time) an opportunity to become effective workers in vocational evaluation and adjustment at entry-level positions with the state-federal and private rehabilitation facilities; 2) to provide a curriculum plan for employed professional staff of public and private rehabilitation facilities in order for them to reach a high level of competence in their work with severely and multiply disabled people; 3) to offer consultations and to conduct workshops and institutes to improve and extend services to the more severely disabled population of the Richmond area; and 4) to assist facility administrators in planning and implementing new service areas such as independent living in rehabilitation.

Graduates of this specialization will have the opportunity to become employed in state and federal rehabilitation agencies as well as public and private facilities offering vocational evaluation and work adjustment services. The occupational outlook in this field for the present and the future is excellent.

INSTITUTES AND WORKSHOPS

The Department of Rehabilitation Counseling conducts institutes and workshops as part of an on-going in-service training program for employed personnel. The department will continue to conduct such institutes and workshops as long as there is a demonstrated need and funds are available.

AWARDS

The Wade O. Stalnaker Award for Outstanding Achievement is presented annually to a full-time graduate student in the Department of Rehabilitation Counseling. Initiated by the graduating class of 1963, this award was named in honor of the founder of the department, Dr. Wade O. Stalnaker.

The recipient is selected on the basis of meritorious academic scholarship, dedication to the philosophy and concepts of rehabilitation, and extracurricula accomplishments in community services.

WORK-STUDY PROGRAM OF PROFESSIONAL EDUCATION IN REHABILITATION COUNSELING

The purpose of this program is to maintain a comprehensive, coordinated, and fully professional course of study in rehabilitation counseling that is offered on a continuous part-time basis. Classes meet on alternate weekends, both Fridays and Saturdays, and are offered through the Division of Continuing Studies and Public Service of Virginia Commonwealth University. Friday night classes meet from 7 to 9:40 pm, Saturday classes meet from 8 to 10:40 am and from 11 am to 1:40 pm.

Students may enroll for one or more courses, depending on their needs. Up to nine hours of credit can be earned by qualified students upon satisfactory completion of a full academic year in this program. The work-study academic year runs from September through May.

The specific objective of this training program is to increase substantially the effectiveness of the rehabilitation counseling profession by making a high-quality training program available to presently employed professional workers whose skills and abilities need up-grading and who desire to prepare themselves academically for a career in rehabilitation counseling but are unable to do so on a full-time basis.

This program is not intended to be a supplementary or introductory program. It is designed to be a complete, comprehensive, and sequential program of graduate training leading to a master's degree in approximately four years of qualified part-time students. These students will be unable to meet the graduate residence requirements by completing 12 hours in a calendar year; therefore, their residence requirement shall consist of the completion of nine graduate hours in two academic semesters.

The entire core curriculum in rehabilitation counseling will be included in the offerings over a four-year span of time, with cer-

tain supplementary classes that may be necessary in special instances.

REGIONAL REHABILITATION CONTINUING EDUCATION PROGRAM **Purpose of the Training Programs:**

The Regional Rehabilitation Continuing Education Program (RRCEP) is based at the Woodrow Wilson Rehabilitation Center, Fishersville, VA. Programs are targeted upon staff development needs of professionals of general rehabilitation agencies, rehabilitation agencies for the blind, and public and private rehabilitation centers and facilities in Federal Region III (Delaware, Washington, D.C., Maryland, Virginia, West Virginia, and Pennsylvania). Various methodologies are utilized and a primary objective is to translate theoretical concepts into practical applications in order to facilitate the provision of quality continuing education to professional rehabilitation practitioners who serve the severely handicapped.

A corollary benefit of these programs is the awarding of graduate or undergraduate credit in a post-induction program for newly employed rehabilitation professionals and a field work practicum program. Continuing education units (CEU's) and/or graduate or undergraduate credits are offered in many of the short-term workshops, seminars, and institutes. RRCEP offerings are approved by the Commission on Rehabilitation Counseling and Certification for maintenance credit.

Program Content:

Post-Induction Training for Rehabilitation Counselors and Related Personnel. A five-week residential program is held at the Woodrow Wilson Rehabilitation Center which also provides a laboratory setting for the training. Newly employed vocational rehabilitation counselors and related professional staff from agencies and facilities throughout the region are referred for training experiences relating the history, philosophy, and legal bases of vocational rehabilitation; principles, methods, and techniques of rehabilitation counseling; caseload management and the rehabilitation process; medical and psychological aspects of disability; and contemporary concerns in vocational rehabilitation. Six undergraduate or gradu-

ate credits from Virginia Commonwealth University are awarded to registered individuals satisfactorily completing the five-week residential post-induction core program.

Rehabilitation Field Work Practicum. This 13-week office based activity is an optional companion course to the post-induction core program and is available independently as well. The field experience addresses concerns such as development or referral sources; agency practices; caseload management; utilization of community resources; counseling techniques; and placement of the handicapped. The trainee's supervisor prescribes the content of the field work and shares supervision of the work in progress with the faculty coordinator, usually through a site visit and conference. Three undergraduate or graduate credits from Virginia Commonwealth University are awarded to registered individuals satisfactorily completing the requirements of the field work practicum.

Techniques and Methodologies in Rehabilitation Supervision. This core area consists of several training activities in management, supervisory skills and practices, interpersonal relationships between supervisors and practitioners, technical and legal expertise, and quality assurance. Workshops and institutes are offered in:

1. Executive Leadership for Rehabilitation Supervisors;
2. Management Principles for Rehabilitation Supervisors;
3. Women in Rehabilitation Supervision;
4. Supervision of Quality Assurance in Rehabilitation Service Delivery.

Advanced Counseling Skills. Workshops and seminars in a variety of theoretical approaches to rehabilitation counseling are offered on a short-term basis. Workshops generally do not exceed three to five days and variable CEU's are awarded. Topical workshop areas include, but are not limited to:

1. Rational Emotive Therapy;
2. Adlerian Lifestyle Counseling;
3. The Art of Helping (Carkhuff Model);
4. Basic Group Counseling, Process, and Procedure;
5. Advanced Group Counseling Skills;
6. Assertiveness Training Skills;

7. Gestalt Techniques and Skills.

Knowledge Utilization in Rehabilitation. Institutes, workshops, and conferences are offered in topical areas of recent emphasis and current benefit to professionals in rehabilitation, varying according to developments in research and practice. Linkages with other RSA funded programs, for instance, R and T Centers, RRI's, state agency rehabilitation programs, and other regional rehabilitation continuing education programs, are coordinated to bring state of the art information to various target groups of rehabilitation practitioners. Programs include, but are not limited to:

1. Regional Information Utilization Institute;
2. Legal, Attitudinal, and Recreational Barriers;
3. Prosthetics and Orthotics Training.

Another area under knowledge utilization deals with the publication and dissemination of a monograph series. RRCEP/VCU also produces bibliographies, syllabus outlines, cassette tapes, and information in Braille.

Program Planning. Training in this area is geared to the needs and interests of top-level state agency administrative personnel. Institutes of high impact and of about two days' duration are offered. Program planning encompasses the area of agency organization, personnel management, public administration, service delivery, fiscal budgeting and planning, and systematic thinking in the allocation and utilization of resources. A major activity in this core area is the consortium on rehabilitation personnel and training.

Rehabilitation Facilities Training Program. Continuing education activities and programs for the staff of state vocational rehabilitation agency operated facilities and centers are coordinated and implemented in a variety of areas. The staffs of private facilities are also eligible to attend appropriate programs.

ALCOHOL AND DRUG EDUCATION/REHABILITATION PROGRAM

Established in 1975 as the Alcohol Education Program, the program changed its name to the Alcohol and Drug Education/

Rehabilitation Program (ADERP) in the fall of 1979. This reflects the enlarged scope of the program which has come to include all types of chemical (physical and/or psychological) addiction. The new title of the program also reflects the fact that students progressing through these courses often become aware of their own alcohol/drug problems or those within their families and seek help, thus there is a rehabilitation nature to the educational sequence.

ADERP was established to meet the following objectives: 1) to define, increase, and evaluate the competencies and skills of professional alcoholism and drug counselors; 2) to increase the scope of knowledge about alcohol and drugs for clinical supervisors, program managers, medical personnel, mental health workers, and those in other fields serving as gatekeepers; 3) to develop and train new personnel for the alcohol and drug field; and 4) to conduct alcoholism and drug rehabilitation research.

The four objectives stated above are being met through the following five tracks: alcoholism counselor, clinical supervisor, program director, medical, and informational. Both workshop and academic courses are designed to meet the objectives through these tracks.

Graduate studies leading to a master's degree are made available to full-time, part-time, or work-study students. A concentration package is also available in the undergraduate curriculum for students who choose the Alcohol and Drug Education/Rehabilitation Option. Graduate and undergraduate programs provide classroom based courses as well as workshops for academic and/or continuing education credit.

Courses are also open to other rehabilitation students as well as business students (in the Personnel Industrial Licensing Program), nursing students, psychology students, and others as electives.

With the anticipated mandate from the Virginia General Assembly for certification of all alcohol and drug counselors in the state, ADERP developed an approved program of education to meet requirements as stated by the Virginia Alcoholism Counselor Certification Committee. Education for cer-

tification involves the completion of 400 hours of approved alcohol education which includes the following six areas of competency: communication, knowledge of alcohol use and alcoholism, understanding the recovery process, counseling and treatment, information, and referral and case management skills. This 400-hour educational program consists of 220 contact hours with the appropriate didactic/experiential ratio and 180 practicum hours which may be fulfilled either through the academic degree program or by successfully completing the progression of seminar and non-degree academic courses.

Instruction addresses a core body of knowledge which is inclusive of the following courses: Overview of Alcoholism and Drug Abuse; Recovery of Alcoholism and Drug Abuse; Treatment of the Alcoholic/Drug Addict with the Significant Others (Family); and Principles, Methods, and Techniques in Treatment of the Alcoholic and Drug Addict (Group Interaction). Also, a focus on direct application of this core body of knowledge (220 hours of didactic and experiential education) is experienced, in the field, by all students before completion of the course sequence as they accomplish Littlejohn's 22 Tasks in a clinical setting under supervision through the Practicum/Internship course.

In addition to the core body of knowledge, areas of special interest are addressed in Crisis Intervention with the Alcoholic and Drug Addict, Prevention, Case Problem Conference, Occupational Alcoholism and Drug Abuse Program Development, and other courses depending on the individual's educational level and area of interest.

ADERP's growth in training through education parallels its initiation and subsequent expansion into the greater Richmond community. Contributions of the program to the community include: multi-disciplinary informational contacts; referrals to various agencies, skilled instructors, and speakers available upon request; knowledgeable counselors who value accountability and professionalism (as seen in those seeking certification and re-certification), exchanges of current trends in treatment and education as transmitted by students doing internship/practicum placements at local agencies.

Also included are increased awareness as enhanced by multi-media coverage of workshops and other events; individual rehabilitation of some program participants that return to the community with a message of hope in recovery while supporting AA, Al-Anon or concerned persons programs, and finally, ADERP is a vital part of the community support network.

The Alcohol and Drug Education/Rehabilitation Program has established itself as a foundation of the educational community as well as the greater Richmond community and the overall state structure where alcohol or drug education/rehabilitation is a new frontier. Information on academic courses and all workshops is available in the ADERP brochures and/or supplements and the university bulletins.

For further information, write or call the Department of Rehabilitation Counseling, Alcohol and Drug Education/Rehabilitation Program, Virginia Commonwealth University, 812 West Franklin Street, Richmond, VA 23284, (804) 257-6233.

UNDERGRADUATE PROGRAM IN REHABILITATION SERVICES

The Department of Rehabilitation Counseling also offers a Bachelor of Science degree in rehabilitation services. Although opportunities for specialization exist, the emphasis of the curriculum is toward a broad interdisciplinary education appropriate for positions involved with effective human resource development and planning. Possible employment activities could include job development and placement, intake interviewing, para-professional counseling, vocational testing, work evaluation and adjustment, client advocate public relations work, coordination, case management, research projects, human resource planning, program development, program operation, etc.

SPECIALIZATION AREAS

The Department of Rehabilitation Counseling through its courses and those in other departments offers specialization areas to all graduate students within the department. These areas include: 1) mental health rehabilitation; 2) correctional rehabilitation (public offender rehabilitation); 3) voca-

tional evaluation and work adjustment; 4) services to the severely physically handicapped; 5) community resources utilization and development; 6) counseling (individual and group); 7) alcohol and drug rehabilitation; and 8) manpower planning.

Courses provide considerable flexibility for students who wish to emphasize special concerns. Internships are provided in mental health, correctional settings, or other settings (such as vocational evaluation and work adjustment units in various rehabilitation facilities). Students may emphasize working with physically handicapped persons and the development of community resources through special courses such as rehabilitation case studies, occupational information, job analysis and placement, work evaluation techniques, work adjustment techniques, and internship. A course in rehabilitation research is also offered and is usually directed toward a student's area of special interest. Faculty members encourage students to select term papers and research project topics to emphasize areas in which they have the highest level of interest.

All students should note, however, that it is not necessary to specialize or choose a sequence area. This is available only for students who wish to become highly specialized in a specific area of rehabilitation.

ADMISSIONS

Beyond the general admissions standards listed on page 9, the following procedures and requirements apply:

1. In place of the Graduate Record Examination, an applicant may elect to prove his or her ability to complete graduate studies and gain admittance by completing nine hours of undergraduate courses, earning a 3.0 ("B") average in courses specified by the chairman of the Department of Rehabilitation Counseling.
2. A personal interview with the chairman is required. If this is impractical, the chairman will designate an alternative for a pre-acceptance interview.
3. The Department of Rehabilitation Counseling evaluates the applicant's fitness for a career in rehabilitation counseling. Careful attention is given to previous work experience, academic

background, scholarship, and emotional maturity. The application is then reviewed and passed upon by the Admissions Committee.

TRANSFER CREDIT

A maximum of six semester hours of acceptable graduate credit earned in a degree program at an accredited institution but not applied towards an awarded degree may be transferred and applied toward the M.S. degree. Such credits will be evaluated for acceptance purposes at the completion of nine semester hours of work in the graduate program in rehabilitation.

CANDIDACY

Admission to graduate study does not constitute candidacy for a degree. Rather, a student who has been admitted to graduate study is advanced to degree candidacy upon the recommendation of the department in which the degree is sought. Advancement to degree candidacy requires that the candidate must have completed between nine and 15 semester hours of graduate study with a minimum grade point average of 3.0; demonstrated clearly the aptitude and ability to pursue graduate work, including independent study; exhibited a commitment to rehabilitation counseling as a profession; demonstrated promise for a successful career in the field selected in terms of temperament and personality. Admission to degree candidacy is not an automatic process, but rather the application for candidacy is approved by the department only after careful evaluation of all pertinent factors.

REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN REHABILITATION COUNSELING

(In addition to the general requirements listed on page 143.)

1. A student must complete a minimum of 39 graduate semester credits, approved by the chairman, exclusive of any credit for supervised clinical practice for rehabilitation counselors or required research with an overall grade point average of 3.0 or above.
2. Application to degree candidacy may be made after the student has demon-

strated his ability to pursue work of graduate character by satisfactorily completing a semester of residence credits (nine credits minimum; 15 credits maximum) and satisfactorily completing an oral or written examination administered by the chairman. Admission to degree candidacy is given upon certification of acceptable records of achievements by the student's advisor.

3. A student without acceptable experience in the field of rehabilitation must complete supervised clinical practice for rehabilitation counselors under the direction of the faculty and the immediate supervision of a qualified person in an approved agency or facility.
4. All students must pass a comprehensive examination. It is administered by the chairman after the student has completed a minimum of 30 graduate credits.
5. Students who have had successful employment in a rehabilitation agency or facility or other successful work experience involving individual case study and adjustment of handicapped persons may, upon approval of the faculty, meet the requirements for supervised clinical practice by successful completion of an additional three graduate semester credits in a research project.

SUPERVISED CLINICAL PRACTICE

Supervised clinical practice in a rehabilitation agency setting is required of all students who have had no previous rehabilitation agency experience. Supervised clinical practice provides an opportunity for students to develop techniques and skills in connection with the total rehabilitation process. It gives them an opportunity for application of theory in the practice of rehabilitation counseling and case management in a rehabilitation setting. Provided under the direction of the faculty and the immediate supervision of qualified personnel in approved rehabilitation agencies or facilities, supervised clinical practice constitutes full-time study for one semester.

Students who have acceptable counseling experience in rehabilitation must either

enroll in supervised clinical practice or participate in a special project approved by the chairman.

Voluntary activities or introductory field experience may not be substituted for, nor counted toward, supervised clinical practice.

Numerous agencies and organizations in Virginia and other states have cooperated with the Department of Rehabilitation Counseling to provide students with opportunities for supervised clinical practice. The primary sources of training are state-federal vocational rehabilitation agencies, Veteran's Administration, Employment Security Commission, social service departments, correctional institutions, hospitals, clinics, sheltered workshops, and evaluation centers. The disability areas have included physical (e.g. spinal cord injury, visual impairments, orthopedic disabilities, speech and hearing disorders, etc.), psychiatric, mental retardation, alcoholism, drug addiction, public offenders, the disadvantaged, etc. The student's advisor will be able to provide the names, addresses, and telephone numbers of agency supervisors who have worked with students in the past. Information regarding a variety of community resource directories is also available.

CORRESPONDENCE AND FURTHER INFORMATION

Further information may be obtained by writing to the chairman of the Department of Rehabilitation Counseling, School of Community and Public Affairs, Virginia Commonwealth University, 812-814 West Franklin Street, Richmond, VA 23284, (804) 257-1132.

GRADUATE COURSES IN REHABILITATION COUNSELING (RCO)

Note: All 500, 600, and 700 level courses are rehabilitation counseling (RCO).

RES 402 (RCO 502) History and Techniques of Manual Communication I. 3 credits. A study of the basic principles of manual communication through non-verbal techniques, eye-contact training, fingerspelling, and basic patterns of American Sign Language Systems. Also a focus on history and development and various methods of communication with deaf persons.

RES 403 (RCO 503) History and Techniques of Manual Communication II. 3 credits. A review and continued study of the development and techniques of basic sign

language with emphasis upon additional sign vocabulary acquisition and improvement of expressive and receptive skills.

RES 404 (RCO 504) Advanced Manual Communication: AMESLAN. 3 credits. A comprehensive and in-depth study of the American Sign Language (AMESLAN) as an independent language of the deaf with low verbal skills and emphasis on English and sign language idioms not known in most forms of manual communication.

RES 405 (RCO 505) Attitudinal, Access, and Architectural Barriers in Rehabilitation. 3 credits. Will emphasize legislation concerning non-discrimination, affirmative action, and architectural and transportation barriers. Will review the scope of the problem as well as the A.N.S.I. standards designed to overcome many of the obstacles to full participation in society. The course will involve field and laboratory exercises in handicap awareness. Students will meet with disabled persons to review the variety of mobility and access problems they encounter.

RES 420 (RCO 520) Introduction to Vocational Rehabilitation. 6 credits. This course provides an intensive five-week exposure to the broad field of vocational rehabilitation. Conducted on the grounds of the Woodrow Wilson Rehabilitation Center, classroom, seminar, and laboratory experiences are employed relative to the full range of physical and mental disabilities. Interaction with the various professional members of the vocational rehabilitation team and with individuals with various disabling conditions is arranged. The rehabilitation counselor's role and function as a member of the team is stressed. Enrollment is limited to eligible employees of public and private vocational rehabilitation agencies and facilities.

RES 421 (RCO 521) Overview of Alcoholism. 3 credits. Overview of alcoholism as a progressive, family disease which can be arrested by a multidisciplinary, rehabilitative approach; consideration of the etiology of alcoholism from physiological, psychological, and socio-cultural viewpoints as well as methods of intervention at various stages; description of the highlights of the continuum of care available in the recovery process.

RES 422 (RCO 522) Recovery of Alcoholism. 3 credits. Exploration of the denial system present in U.S. society which complicates the early intervention and treatment of a progressive, family disease; presentation of new hope for the alcoholic and his family in the attempts being made in certain areas of society to begin the recovery process early; description of approaches proving to be helpful in facilitating the alcoholism professions in guiding the alcoholic and his family from isolation to involvement and integration.

RES 423 (RCO 523) Principles, Methods, and Techniques in Treatment of the Alcoholic. 3 credits. Prerequisites: RES 421 (RCO 521) and 422 (522) or permission of instructor: Integration of principles, methods, and techniques utilized in the recovery process of alcoholism, especially in group work; exploration of various methods and theories as applied to treatment of the alcoholic, with provision for group involvement, co-facilitation, and practice counseling sessions.

RES 425 (RCO 525) Introduction to Rehabilitation. 3 credits. This course is designed to give the student a comprehensive overview of the rehabilitation process. It emphasizes its historical, philosophical, social, and legal aspects. Special attention is devoted to the professional aspects of rehabilitation counseling, the need for it, and the skills and functions of the counselor.

RES 433 (RCO 533) Directed Readings in Rehabilitation. 3-6 credits. Topical course. Provides an opportunity for students to intensify understanding in one or more areas of rehabilitation through directed readings under supervision of a faculty member. The study experience must be synthesized in a paper and a written or oral examination before a faculty committee.

RES 440 (RCO 540) Directed Readings in Alcoholism. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Opportunity to investigate and pursue in depth a particular concept encountered in the alcoholism concentration courses or to study in detail a particular problem in alcoholism while working in the field; under the direction of the alcoholism personnel in the department.

RES 451 (RCO 551) Treatment of the Alcoholic with Significant Others. Semester course; 3 lecture hours. 3 credits. Prerequisites: RES 421 (RCO 521), 422 (522), and 423 (523), or permission of instructor. Stress on the importance of the family disease concept of alcoholism utilized throughout the concentration series; demonstrations and role-playing of situations involving the alcoholic and significant others provided; discussions of multiple impact family therapy and other approaches developed relevant to the alcoholic.

RES 452 (RCO 552) Crisis Intervention with the Alcoholic. Semester course; 3 lecture hours. 3 credits. Prerequisites: RES 421 (RCO 521), 422 (522), and 423 (523), or permission of instructor. Focus on the application of concepts discussed in theory in the recovery process course; sharing of difficulties and successes with crisis intervention by individuals already in the field; provision of new and more refined techniques under the direction of experts demonstrating their applicability.

RES 459 (RCO 559) A Survey of Rehabilitation of Blind and Visually Impaired Individuals. 3 credits. The purpose of this course is to acquaint the student, rehabilitation counselors, and other personnel working in related areas with problems encountered in the rehabilitation of blind and partially sighted persons.

RES 461 (RCO 561) Work Evaluation Techniques for Rehabilitation. 3 credits. An in-depth examination of the methods and techniques utilized in determining employment potential and the role of the work evaluator in the rehabilitation process. Specific procedures and approaches are analyzed including the TOWER System, Singer-Graflex System, and other methods currently utilized in rehabilitation services.

RES 462 (RCO 562) Work Adjustment Techniques for Rehabilitation. 3 credits. An in-depth analysis of methods utilized in overcoming maladaptive worker behavior in rehabilitation services including group process, sheltered workshops, and non-verbal techniques. The role and function of adjustment personnel in the rehabilitation process. Current problems and research in methods of adjustment.

RES 466 (RCO 566) Field Work Practicum. 3 credits. Designed to complement and follow RES 420, this eight-week on-the-job experience is jointly supervised by a university faculty member and by the student's training supervisor in the public or private rehabilitation agency or facility where the student is employed. A choice of exercises is offered with required written reports of each exercise selected. These exercises are programmed to encourage the further integration of concepts, practices, and skills learned in RES 420 with actual agency policy and service delivery. Enrollment is limited to eligible employees of public and private vocational rehabilitation agencies and facilities who have completed RES 420.

527 Rehabilitation of the Industrially Injured Client. Semester course; 3 lecture hours. 3 credits. This course emphasizes the unique needs of the industrially injured client and current methods of rehabilitation and programs available through insurance companies and governmental agencies.

528 Prevocational Adjustment Practices With Mentally Retarded Persons. Semester course; 3 lecture hours. 3 credits. This course is designed to acquaint the student with prevocational adjustment practices as these relate to the rehabilitation process. Emphasis will be placed on activities and information geared toward complete rehabilitation of mentally retarded persons as well as utilization of community resources.

538 Rehabilitation and Hearing Impairment. Semester course; 3 lecture hours. 3 credits. Offers material on rehabilitation aspects of hearing impairments. Covers the implications of hearing loss and deafness in terms of the size of the hearing impaired population, services available in terms of vocational rehabilitation, and other agency efforts. It also focuses on methods of communication and the understanding of language development. The concept of multiple disabilities will be discussed as well some aspects of mental health and prevention. Offers material on the "deaf community" and emphasizes development of understanding of this special population group.

539 Current Problems in Rehabilitation. 3-6 credits. Topical seminar. A study of development and implications resulting from rehabilitation research and demonstration activities. Agency problems related to staff improvement and expansion of rehabilitation services and facilities will also be considered as well as reviews of specific disability problems and trends in rehabilitation.

563 Independent Living in Rehabilitation. 3 credits. This course will offer students an opportunity to acquire the knowledge and skills necessary for providing services to severely disabled people in the area of independent living. Emphasis will be placed on evaluation and adjustment approaches for people who are clients of public and private rehabilitation centers, employment workshops, group homes, and in the emerging centers for independent living in rehabilitation.

607 Community Resources. 3 credits. This course emphasizes the means by which the community uses its resources and services to meet the needs of handicapped persons. It provides for study and discussion of the nature and organization of community resources as they relate to rehabilitation, availability of community

resources through public and private agencies and facilities including employment potentials, problems in the development and utilization of community resources, observational visits to key agencies, and lectures by representatives of various rehabilitation programs.

611 Principles, Methods, and Techniques in Rehabilitation Counseling. 3 credits. This course is designed to acquaint students with principles, methods, and techniques utilized in rehabilitation counseling. Counseling, as applied to various personalities and under varying situations, is discussed. Laboratory practice in counseling is provided.

612 Principles, Methods, and Techniques in Rehabilitation. 3 credits. This course is designed to acquaint students with principles, methods, and techniques in rehabilitation as they are applied throughout the rehabilitation process, especially in group work. It includes techniques and methods of case findings; medical, psychosocial, and vocational evaluation; the rehabilitation diagnosis; the determination of financial need; provision of case services; placement, follow-up, and case recording.

623 Occupational Information, Job Analysis, and Placement. 3 credits. Provides an orientation to occupations and occupational information for rehabilitation counselors, study of the literature on occupations and occupational information, writing the job analyses, visits to selected business and industrial establishments employing handicapped persons, and job analyses related to the employment of handicapped individuals.

625 Measurement and Evaluation in Rehabilitation. 3 credits. Consideration will be given to the selection of tests for rehabilitation clients; the determination of need for testing, administering, and interpreting tests; adaptation of tests to special disability groups; suggestions for the integration of test results with the overall rehabilitation diagnosis; the establishment of local norms for rehabilitation clients; the work-evaluation report; and interpretation of test results to client. Tests of achievement, aptitude, intelligence, interest, and personality will be critically examined. Laboratory fee \$4.

633 Rehabilitation Case Studies. 3 credits. This course provides for critical analyses of representative rehabilitation cases. Rehabilitation case records are utilized as a basis for presenting an understanding of the handicapped client and his problems; the rehabilitation case-work processes and diagnoses; and the provision of services.

635 Theory and Practice in Prevention of Alcoholism. 3 credits. Prerequisite: permission of instructor. Utilization of human service agencies and community at large to affect attitude and behavior change concerning the use and abuse of alcohol; development of skills in educating, coordinating, motivating, planning, and implementing in prevention area; project in prevention.

637 Introduction to Field Experience for Rehabilitation Counselors. 3 credits. This course provides for concurrent field experience. It is designed for students who have not had any training or experience in interviewing and counseling in rehabilitation settings.

638 Practicum in Job Placement in Rehabilitation Counseling. 3 credits. This course provides for actual experience in rehabilitation counselor activities, with emphasis on placement techniques—including itinerary planning, plant surveys, job analysis, placement, and follow-up.

640-641 Medical Information for Rehabilitation Counselors. 3-6 credits. This course provides medical information for rehabilitation counselors and introduces students to medical terminology. It provides knowledge of the etiology, prognosis, methods of treatment, effects of disabling conditions, and implications for the rehabilitation counselor. Physician-counselor relationships are emphasized as is the interpretation of medical reports. (This course is offered in cooperation with the Department of Rehabilitation Medicine, Medical College of Virginia of Virginia Commonwealth University.)

642 Psychiatric Information for Rehabilitation Counselors. 3 credits. This course provides psychiatric information for rehabilitation counselors so that they may have an understanding of disabling psychiatric conditions as well as the emotional aspects of physical disabilities. It deals with impairments of a mental origin including mental retardation, behavioral disorders, neuroses, and psychoses—both organic and functional, as well as convulsive disorders. Emphasis is placed on physical, emotional, and social factors that contribute to the various mental illnesses.

643 The Rehabilitation Facility and its Services to the Severely Disabled. Semester course; 3 lecture hours. 3 credits. This course is designed to offer the student material on the rehabilitation facility and programs of facility services to the severely disabled. Special emphasis will be placed on materials, information, and activities which will enable each student to achieve a comprehensive understanding as to the development and operation of the facility services by personnel which facilitates the rehabilitation of handicapped persons.

650 Occupational Alcoholism and Drug Abuse Program Development. 3 credits. This course is designed to provide information and data for graduate students on the importance of the effects of alcohol and other drugs in a work setting. Various types of programs used by business, industry, and other organizations to deal with such employees will be presented. The course context was developed to provide the student with the opportunity to gain knowledge and skills necessary to design, implement, and maintain systems to reduce human and productivity losses due to alcoholism/drug addiction and its effects.

654 Seminar in Special Problems in Rehabilitating Handicapped Persons. 3-6 credits. Topical seminar. This course is presented in a series of units. Each unit places emphasis on a special disability group such as paraplegic, deaf and hard of hearing, alcoholic, epileptic, cerebral palsied, cardiac, blind, mentally retarded, mentally ill, drug addict, aged, etc. The incidence and nature of disabilities, psychological factors, vocational problems, and specialized treatment and placement facilities required and techniques of team approach; use of rehabilitation centers and specialized facilities and use of consultants.

655-656 Seminar in Rehabilitation. 3-6 credits. Current trends, problems, and developments in rehabilitation are discussed. Students pursue a special interest area such as cultural deprivation, disability determination, work adjustment, work evaluation, etc., and share information and experience mutually with the group. Lectures, reports, and group discussions are utilized.

657-658 Seminar in Audiology in Rehabilitation. 3 credits. This course provides an orientation to audiology as it applies to the rehabilitation process. It includes history of the education of the deaf and hard of hearing, methods of instruction, diagnostic testing and evaluation, and special lectures pertaining to rehabilitation of the acoustically disabled and problems confronted by the counselor or teacher in providing adequate services to this disability group.

664 Supervised Clinical Practice in Alcoholism. Block assignment; 8 credits. Prerequisites: RCO 521, 522, and 523. Practical learning by observing and doing the 22 tasks of the alcoholism counselor as outlined in the Littlejohn Report; general direction and supervision by alcoholism personnel within department and direct supervision by a person qualified within the facility to discuss counselor/client problems.

666-667 Supervised Clinical Practice. Block assignments; 8 credits. Practical learning by observing and doing. It gives the trainee many opportunities for the application of theory in the practice of rehabilitation counseling and case management and/or work evaluation and work adjustment in a rehabilitation setting. It is provided under the general direction and supervision of the faculty and the direct supervision of a qualified person within the agency or facility. Students meet regularly with the clinical practice supervisor within the agency or facility to discuss clients' problems and possible solutions.

672 Research in Rehabilitation. 3-6 credits. The student undertakes a research project with the assistance of a faculty member. He is required to write a paper and pass an examination in order to receive credit.

681-689 Institutes and Workshops. Orientation institutes and other short-term training programs are offered for rehabilitation counselors newly recruited to the rehabilitation field and for the further professional development of those already employed. Content will vary according to the aims of the institutes or workshops. Length of time and number of credits are announced prior to each institute or workshop.

692 Alcohol and Human Behaviors. 3 credits. Prerequisites: RCO 521, 522, 523, and 664, or permission of instructor. Understanding the significance of behavior as a tool in diagnosing, treating, and/or referring the alcoholic; appreciation of particular cues to observe the predominant behavior associated with living problems and reflected by the alcohol abuser.

693 Delivery Services to the Alcoholic. 3 credits. Prerequisites: RCO 521, 522, 523, and 654, or permission of instructor. Exposure to the 22 professional tasks of the alcoholism counselor through discussion centered around examples brought into class from clinical experience; understanding how these tasks dealing with the alcoholic and his family apply to different settings; a

summary of the other five parts in the alcoholism concentration culminating in a philosophy of the alcoholism counselor.

701-702 Thesis. 1-3 credits. The master's thesis consists of either a carefully planned and executed research undertaking or a detailed and comprehensive report on a supervised clinical practice experience. Generally, a thesis of the latter type in the latter form will carry one credit and will be taken in conjunction with RCO 666-667.

Department of Urban Studies and Planning

FACULTY

Professor: Fonoroff (Chairman)

Associate Professors: Gulak; Moeser; Rugg; Schexnider (Associate Dean); Schulz

Assistant Professors: Brown; Roggemann; Silver

The graduate program in urban and regional planning seeks to provide rigorous professional grounding in the theory and methodologies of planning through a curriculum that balances classroom and field experience.

The Master of Urban and Regional Planning (M.U.R.P.) is a two-year degree program requiring 48 semester hours of classwork and six hours of internship. A core of required courses, most of which are taken in the first year, includes:

Introduction to Urban and Regional Planning

Problems in Urban and Regional Planning

Planning Methods I: Planning Information Systems and Research Design

Planning Methods II: Plan Formulation and Implementation Strategies

Urbanization and Land Use Theory

Legal and Legislative Foundations of Planning

Techniques of Mapping and Cartographic Analysis

Planning Studio

Students may choose a broad program in comprehensive planning, or may elect one of the several specialized areas of study. These areas include:

Land Use and Environmental Planning

Urban and Regional Economic Development

Community Services Planning

Health Planning.

The emphasis in land use and environmen-

tal planning is on problems at the interface between social systems and the physical environment. It is expected that students specializing in this sequence will graduate with knowledge and skills necessary to prepare land use plans, taking into account the social and economic issues of community development as well as the constraints imposed by the physical environment. This specialization provides exposure to at least one functional aspect of physical planning, such as housing, physical environment, recreation, or transportation.

The specialization in urban and regional economic development is oriented toward students interested in careers ranging from regional and community economic development and human resources planning to fiscal analysis and research planning for metropolitan planning agencies. The focus is on urban and regional economic theory, economic analysis, and formulation of strategies and programs for local economic development.

Students desiring to serve as human service planners or community action planners may specialize in community service planning. This specialization combines planning techniques, law, and politics with studies in community needs assessment, policy analysis, and design of delivery systems in such areas as manpower training, neighborhood organization, and preservation, health, and welfare.

The specialization in health planning has been developed in cooperation with the Department of Health Administration in the School of Allied Health Professions. Students may earn the Master of Urban and Regional Planning degree with intensive training in health care resources and planning techniques as preparation for careers with health planning agencies.

DUAL DEGREE PROGRAM IN LAW AND URBAN AND REGIONAL PLANNING

A cooperative arrangement with the T. C. Williams Law School makes it possible for students to receive a law degree (J.D.) and an urban and regional planning degree (M.U.R.P.) in four years rather than the five years ordinarily required.

The purpose of the program is to integrate the two professional curricula, and provide the expertise necessary to apply legal analytical skills and planning methods and analysis to urban and regional policy issues and problems. The dual degree program is designed to equip graduates for a variety of professional positions including staff for legislative committees and government agencies and commissions, government legal staff, private consulting, neighborhood advocacy, directorships of planning and related agencies, and executive aides to elected officials.

Interested students must separately apply for and be admitted to the T. C. Williams School of Law, University of Richmond, and the Department of Urban Studies and Planning, VCU. Students will spend their entire first year in either the School of Law or the Department of Urban Studies and Planning, and their second year in the program not selected in the first year. Fifteen credit hours (one semester of course work) of the planning program will be applied toward meeting the graduation requirements of the School of Law, and 12 credit hours (one semester of course work) in the School of Law will be applied toward meeting requirements of the Department of Urban Studies and Planning.

Upon admission to the dual degree program, every student will be assigned an advisor in each program who will assist in planning the course of studies that will include all of the required courses in each program plus such elective courses as will best serve the interests of the individual student.

Any student deciding not to complete the dual degree program must meet all of the regular requirements of the J.D. or M.U.R.P. to receive either degree of their choice.

RESEARCH AND RELATED ACTIVITIES

Current research of faculty includes:
 Effects of political organization on architectural styles and land use;
 Effects of annexation on the political structure of the metropolitan area;
 Comparative urbanization and planned change;

Natural hazards perception in coastal Virginia;
 Public school enrollment projection and provision for transportation;
 Computerized information system for rural planning districts;
 Impacts of the ward system on delivery of urban services;
 Contract zoning;
 Recreation programs in correctional settings;
 Industrial development and long range economic development planning;
 Planning for the elderly.

ADMISSIONS

Beyond the general admissions standards set forth on page 143, the following apply:

1. Students must have a minimum of a 2.7 grade-point average (on a 4.0 scale) in their last 60 semester hours of undergraduate work. In addition, a grade-point average of not less than 3.0 must have been maintained in their undergraduate majors. Finally, applicants are expected to receive a minimum score of 400 on each of the categories in the Graduate Record Examination.
2. Students not meeting these requirements may be admitted to the program on a probationary basis. The probationary period shall consist of the first 12 hours of graduate work in which all grades must be no less than "B".
3. Generally, two of the three letters of reference should come from former faculty.
4. The latest dates for submitting application materials are June 1 to be considered for the following September, and December 1 for the following January. However, all candidates—especially those applying for financial aid—are urged to apply before March 1 in order to have the best chance of being accepted or receiving an award of financial assistance for the following academic year. Applicants who submit materials by March 1 will be notified of the decision of the Admissions Committee by mid-April.

PART-TIME STUDENTS

Because virtually all courses may be taken in the evening, the program accommodates both full- and part-time students. Students may also take advantage of courses offered in the summer. Thus, it is possible for a part-time student taking six credit hours per semester to finish the master's degree in four years or less.

TRANSFER CREDIT

Upon acceptance to the program, up to six hours of graduate credits with grades of "B" or above may be applied to the degree if such work is considered relevant by the Admissions Committee.

Students admitted to the graduate program may register for selected courses offered by the T. C. Williams Law School of the University of Richmond. A list of such courses appears on page 143 under the title "Law Electives." No more than nine credit hours of law electives may be transferred, and students must receive a grade of "B" or above in such course work.

FINANCIAL AID

The university maintains a Financial Aid Office which is discussed on page 8 under General Information.

Also there is a limited amount of financial aid provided by the Department of Urban Studies and Planning. Application forms are available from the department for the following forms of aid:

1. Teaching Assistant Positions. Duties involve helping in the instruction of undergraduate courses in the Departments of Urban Studies and Planning and Recreation. The level of support varies according to the work level, financial need, and scholarship.
2. Tuition Scholarships. There is a limited number of tuition scholarships for full-time students.
3. H.U.D. Work Study Program. This program is limited to minorities and low income individuals. Students study full-time at the university while working 12-20 hours per week in a local planning agency. Participants receive up to \$400-500 in salary plus grants for tuition, books, and travel.

4. Research Assistant Positions. Support for these positions include tuition and a living allowance. The number of positions depends upon the level of sponsored research carried out by the department in each year.
5. Department Assistant. There are funds available for work in the office of the Department of Urban Studies and Planning. Duties include running errands, typing, filing, and helping with department projects. The pay is by the hour, from ten to 20 hours a week.
6. The Kathryn A. Rhoades Memorial Scholarship. This scholarship was established by the friends and colleagues of Kathryn Rhoades, who served as secretary to the Department of Urban Studies and Planning between 1972 and 1975. Ms. Rhoades' dedicated service was instrumental in the early formation of the planning program. She is remembered as a helpful friend by the students of the program who have helped make this scholarship possible.

REQUIREMENTS FOR THE DEGREE OF MASTER OF URBAN AND REGIONAL PLANNING

(In addition to those listed on page 143).

1. A student must complete a minimum of 54 graduate credits, including 48 credits of coursework and six hours of internship.
2. A minimum of at least half of the courses required in the student's program shall be those designated as exclusively for graduate students; that is, those at the 600 level or above.
3. Although approval is normally granted, students must acquire the approval of their advisor before enrolling for any unspecified elective.
4. In URP 792 Planning Studio II or URP 798 Projects students must obtain a grade of "B" or better on this Final Project to be eligible for the receipt of the M.U.R.P. degree.

INTERNSHIP AND PLACEMENT

The internship is designed to give the student practical experience in planning related activities in an institutional context. Normal-

ly, the internship is taken during the summer between the first and second year. Permission is necessary from the chairman before the internship is begun.

Students who are already or who have been employed in planning positions may use that experience to satisfy the internship requirement. Approval of such experience by the chairman is required. In those cases where the internship requirement is waived, students are required to complete six additional semester hours of planning course work.

There are many opportunities for internship positions, as well as part-and full-time jobs in planning at all levels of government within the Richmond area. Agencies in which students have found employment include the planning departments of the city of Richmond; the Richmond Regional Planning District Commission; other regional planning district commissions; and the counties of Henrico, Chesterfield, Goochland, and Prince George. Students have also been employed in state agencies such as the Department of Housing and Community Development, the Water Control Board and the Governor's Council on the Environment.

CORRESPONDENCE AND FURTHER INFORMATION

Further information may be obtained by writing to the chairman of the Department of Urban Studies and Planning, Virginia Commonwealth University, 812 West Franklin Street, Richmond, VA 23284, (804) 257-1134.

CURRICULUM

| I. First Year, First Semester | | <i>Credits</i> |
|---|--|----------------|
| URP 531 Introduction to Urban and Regional Planning..... | | 3 |
| URP 651 Legal and Legislative Foundations of Planning | | 3 |
| URP 671 Planning Methods I Planning Information Systems and Research Design | | 4 |
| URP 514 Techniques of Mapping and Cartographic Analysis | | 2 |
| II. First Year, Second Semester | | |
| URP 532 Problems in Urban and Regional Planning..... | | 3 |
| URP 633 Urbanization and Land Use Theory . | | 3 |
| URP 672 Planning Methods II Plan Formulation and Implementation Strategies | | 4 |
| Electives..... | | 2-3 |

III. Internship

| | |
|--|---|
| URP 701 (Normally taken between the first and second year of work but other options are available) | 6 |
|--|---|

IV. Second Year

| | |
|---|-------|
| URP 791-792 Planning Studio. | 6 |
| or URP 791 Studio I and URP 798 Projects Electives ¹ | 17-18 |
| | 54 |

OPTIONAL SPECIALTIES

The courses in the optional specialties are taken as electives in the regular curriculum. Thus, a student wishing to specialize would devote most of his first year to required courses, while most of the second year would be devoted to his specialty.

LAND USE AND ENVIRONMENTAL PLANNING

| Required Courses | Credits |
|--|---------|
| URP 661 Principles of Urban Design | 3 |
| URP 741 Environmental Management Planning I | 3 |
| Plus at least three of the following courses ... | 9 |
| URP 652 Legal and Legislative Foundations of Planning II | |
| URP 721 Recreation Systems Planning I | |
| URP 732 Metropolitan Circulations Systems | |
| URP 742 Environmental Management Planning II | |
| URP 745 Dynamics and Issues in Housing | |
| BUS 627 Urban Land Development | 15 |

Recommended Electives

(see bulletin for courses given in alternate years)

| | |
|--|--|
| URP 571 Introduction to the Study of the Future | |
| URP 641 Social Change and Community Planning | |
| URP 682 An Economic Approach to Environmental Issues | |
| URP 722 Recreation Systems Planning II | |
| URP 731 Economic Development Planning | |
| URP 746 Housing Development Planning | |
| URP 782 New Towns Planning | |
| URP 797 Directed Research | |
| URP 798 Thesis or Project | |

COMMUNITY SERVICES PLANNING

| Required Courses | Credits |
|--|---------|
| URP 641 Social Change and Community Planning | 3 |
| URP 536 Urban Poverty Law | 3 |
| URP 511 Urban Public Policy Making Processes | |

¹Students who select the Land Use and Environmental Planning Option will substitute URP 741 Environmental Management Planning I and take URP 661 Principles of Urban Design, in the second year.

or

| | |
|---|---|
| URP 512 Metropolitan and Regional Public Management. | 3 |
|---|---|

Plus any two of the following courses (see bulletin for courses given in alternate years) 6

| | |
|---|--|
| URP 571 Introduction to the Study of the Future | |
| URP 721 Open Space Planning | |
| URP 722 Recreation Systems Planning II | |
| URP 731 Economic Development Planning | |
| URP 745 Dynamics and Issues in Housing | |
| RCO 525 Introduction to Rehabilitation | |
| RCO 607 Community Resources | |
| AJP 612 Public Safety: Policy Issues in Administration of Justice | |
| AJP 655 Public Safety: Planning Politics of Community-Based Corrections | |
| SLW 540 Social Policy and Aging | |
| HAD 614 Health Planning and Policy | |

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URBAN AND REGIONAL ECONOMIC DEVELOPMENT

| Required Courses | Credits |
|---|---------|
| URP 731 Economic Development Planning ... | 3 |
| URP 511 Urban Public Policy Making Processes or URP 512 Metropolitan and Regional Public Management | 3 |
| PAD 605 Economics of the Public Sector or ECO 616 Advanced Public Finance | 3 |
| Plus any one of the following: (see bulletin for courses given in alternate years) | 3 |
| URP 522 Programming and Budgeting | |
| URP 536 Urban Poverty Law | |
| URP 682 An Economic Approach to Environmental Issues | |
| ECO 532 Manpower Economics | |
| ECO 611 Concepts of Economics | |
| ECO 616 Advanced Public Finance (if not taken as a requirement) | |
| PAD 605 Economics of the Public Sector (if not taken as a requirement) | |

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HEALTH PLANNING

| Required Courses | Credits |
|--|---------|
| HAD 602 Health Care Organization and Services | 3 |
| HAD 604 Health Economics (or equiv.) or ... | |
| HAD 662 Health Care Politics and Policy Analysis | 3 |
| HAD 614 Health Planning and Policy | 3 |
| HAD 616 Seminar in Applied Health Planning | 2 |
| | 11 |

Law Electives

| | |
|---|---|
| Advanced Real Estate Transactions | 3 |
| Consumer Protection. | 3 |
| Employment Discrimination Law | 2 |
| Environmental Law | 3 |
| Legislation | 2 |
| Mortgages and Surveyship. | 4 |
| State and Local Taxation | 3 |
| Community Mental Health Law | 3 |

GRADUATE COURSES IN URBAN AND REGIONAL PLANNING (URP)

511 Urban Public Policy-Making Processes. Semester course; 3 lecture hours. 3 credits. A study of the dynamics of conflict resolution in behalf of and within the urban community; the manner in which competing interests are articulated and aggregated in attempts to shape urban public policy, the various levels, and kinds of governmental machinery designed to resolve the conflicts.

512 Metropolitan and Regional Public Management. Semester course; 3 lecture hours. 3 credits. Examines the relationship between metropolitan growth and the fragmentation of government systems; assesses capacity of fragmented government systems to formulate rational public policy in relation to forces impeding or facilitating political integration of a metropolitan area; evaluates mechanism designed to governmental fragmentation.

514 Techniques of Mapping and Cartographic Analysis. Semester course; 1 lecture and 2 laboratory hours. 2 credits. Prerequisite: permission of instructor. Methods of map compilation, map design, geographic base files, and computer cartography in urban planning.

515 Cartography and Air Photo Interpretation. Semester course; 2 lecture and 2 laboratory hours. 3 credits. An introduction to the preparation and interpretation of data in cartographic form. Included is the methodology of map making, introductory photogrammetry, object recognition, stereograms, area measurement, and mapping from aerial photos.

522 Programming and Budgeting. Semester course; 3 lecture hours. 3 credits. Principles and procedures of budgeting by government units and public agencies as they affect planning, policy making, implementation, and evaluation. Topics covered include an overview of budgeting theory; line item, performance, program, management by objectives, and zero base budgeting.

531 Introduction to Urban and Regional Planning. Semester course; 3 lecture hours. 3 credits. Introduction to the history, concepts, and activities of urban planning and their relationship to the ethics and responsibilities of planners.

532 Problems in Urban and Regional Planning. Semester course; 3 lecture hours. 3 credits. Regional planning concepts. Trends in urbanization and the planning responses.

536 Urban Poverty Law. Semester course; 3 lecture hours. 3 credits. Examines and evaluates developing case law and selected legislation in areas of special concern to low and moderate income groups: legal services, public welfare law, labor law, housing law, family law, consumer law, and criminal procedure.

540 Historic Preservation in Planning. Semester course; 3 lecture hours. 3 credits. The course surveys the process of historic preservation which includes the evaluation of sites, identification of architectural styles, the adaptive use of sites and structures, and the various sources available for implementing preservation proposals in government or in the private sector. Preservation is considered as a tool in the planning process and its applica-

tion to neighborhoods, downtowns, and other city districts is considered.

551 Local Government Law. Semester course; 3 lecture hours. 3 credits. Law governing local government operations; especially emphasizing Virginia. Control of the state and local operations, role of commonwealth's attorneys and local governing boards, legal staffs, and related issues.

552 Urban Transportation Systems. Semester course; 3 lecture hours. 3 credits. An examination of urban requirements for mobility, transportation systems, problems of traffic, mass transit, and new concepts for moving people and goods.

561 Housing and Development Policy. Semester course; 3 lecture hours. 3 credits. An examination of public policy in housing and development as it has evolved and is evolving in application and practice. The course will focus on the most recent experimentations and adjustments in policy at the national and local levels. Also included are the classic studies of housing and development as a social problem.

571 Introduction to the Study of the Future. Semester course; 3 lecture hours. 3 credits. Considers the perspectives, assumptions, and forecasts of futurists and the methods and tools of future research; examines those forces which are presently shaping the future environment and addresses issues of paramount importance in the 80's and 90's.

581 Land Use and Site Planning. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Principles of land planning and analysis are investigated in both classroom and studio settings. Environmental impacts and the capacity of environmental systems are evaluated in relation to the site requirements of various urban and rural situations. Graphic techniques necessary for applying these principles are described so that the student can develop and evaluate site plans for various purposes and at various scales. Actual site planning exercises are used as a way of grasping the course information.

620 Topics in Urban and Regional Planning. Semester course; 1, 2, or 3 credits. Students will have an opportunity to examine in detail some question of significance in the field of urban and/or regional planning. Due to the changing subject matter to be treated in this course, permission of the instructor is required. Consult the Schedule of Classes for the specific topic to be offered each semester.

633 Urbanization and Land Use Theory. Semester course; 3 hours. 3 credits. Interregional differences in urbanization, both historically and among nations: introduction to urban systems and urban land use theory, including sociological, economic and political approaches to urban spatial differentiation and urban problems, and implications for institutions and public policy.

641 Social Change and Community Planning. Semester course; 3 lecture hours. 3 credits. Analyzes social change and community dynamics as related to social goal setting in urban and regional planning. Deals with urban and metropolitan areas as a system of interacting social groups: techniques of establishing interrelation-

ships between social goals and other planning elements emphasized.

651 Legal and Legislative Foundations of Planning I. Semester course; 3 lecture hours. 3 credits. Delineates the legal and legislative basis for planning at local, state, and federal levels. Judicial precedents in land use controls are investigated, including private controls, traditional zoning, administration of zoning ordinances, new flexible zoning concepts, development timing and growth controls, exclusionary land use practices, subdivisions controls, and eminent domain.

652 Planning, Administration, and the Legal Process. Semester course; 3 lecture hours. 3 credits. Major emphases are administrative law, legislation, and substantive environmental law. Judicial review of administrative actions; notice, hearing, investigative requirements; the planner and administrator as expert witnesses; legislative language; drafting of legislation; legislative process; NEPA: air, water, and water-lands; solid waste; herbicides and pesticides; noise; and critical man-made areas are investigated.

661 Principles of Urban Design. Semester course; 3 lecture hours. 3 credits. Principles of urban design at the micro- and macro-scale. Expression of planning objectives in physical design, with emphasis on the relationship between urban design at various scales and the needs of individuals and groups.

671 Planning Methods I: Planning Information Systems and Research Design. Semester course; 4 lecture hours. 4 credits. Research methods applied to problems of planning and public policy. Statistical analysis through multiple regression. Introduction to data sources and methods of survey research. Introduction to data processing and the use of statistical packages for the computer.

672 Planning Methods II: Plan Formulation and Implementation Strategies. Semester course; 4 lecture hours. 4 credits. Prerequisite: URP 671. Emphasizes policy analysis, statements, and presentation of policy alternatives; development of strategies to intervene in problem situations; elements of plan formulation; techniques and tools for plan implementation; implementation as an iterative process; and the selection of implementation strategies.

682 An Economic Approach to Environmental Issues. Semester course; 3 lecture hours. 3 credits. The effect of externalities in terms of efficiency and equity considerations. The role and problems of benefit cost analysis in decision making. The interrelationship of air, water, and land quality issues is analyzed. The use rate of natural resources, energy consumption, and the steady state economy and their impacts are evaluated.

701 Planning Internship. 6 credits or two semesters, 3 credits each. Eight to ten weeks full-time equivalent participation in a public or private planning-related agency. Approval of the chairman required. Grading on a "pass-fail" basis.

721 Open Space Planning. Semester course; 3 lecture hours. 3 credits. An examination of the demand for and value of open space, such as natural, agricultural, and recreational areas, in the context of urban and regional planning. Open space as a city-forming device and as a

positive land use. Standards and criteria for development and performance of open space systems. Strategies for conservation of open space within urban regions.

722 Recreation Systems Planning. Semester course; 3 lecture hours. 3 credits. General principles of planning and development of local and regional recreation areas and facilities. Investigation of standards relative to size, location, and programs. Review of national and statewide outdoor recreation plans, and trends in recreation development. A practical exercise in recreation planning to be completed in the field.

731 Economic Development Planning. Semester course; 3 lecture hours. 3 credits. Examines current theories of economic development as they relate to low income groups, political jurisdictions, and metropolitan-wide economic systems. Emphasis on the structuring of economic development strategies for metropolitan areas that encourage the imbalance between high growth peripheral areas and the inner city area of decline.

732 Metropolitan Circulation Systems. Semester course; 3 lecture hours. 3 credits. Examination of urban activity systems and their requirements for mobility. Explores the impact of technological change in communication and transportation modes on access and circulation patterns.

741, 742 Environmental Management Planning. Semester course; 3 lecture hours. 3,3 credits. Defines the impact of urban activities on the natural environment within a metropolitan context and stresses dependency relationships between man-made and natural environments. Applies resources and management concepts to the use of land, air, and water.

745 Dynamics and Issues in Housing. Semester course; 3 lecture hours. 3 credits. Examines and evaluates current problems in urban housing within the dynamics of metropolitan development.

746 Housing Development Planning. Semester course; 3 lecture hours. 3 credits. Housing planning as a distinct subfield of urban planning, emphasizing means of linking planning concepts with implementation. The means of articulating housing policies at the state, regional, and local levels are analyzed.

782 New Towns Planning. Semester course; 3 lecture hours. 3 credits. Extensive evaluation of new towns and planned unit development (PUD) concepts and experiences; changes in communication and transportation technology, changes in employment requirements as they will affect future life styles; and anticipated shifts in local requirements or urban functions (Not offered every year, consult the class schedule.)

791-792 Planning Studio. Year course; 6 studio hours. 6 credits. Individual student projects intended to give the student experience in applying theory and methodology gained from the second year course offerings to solve selected planning problems. URP 798 Projects is an acceptable substitute for URP 792 Planning Studio II. Consent of instructor and chairman required for this substitution.

797 Directed Research. 1-3 credits. May be repeated for a total of six credits. Prerequisites: permission of in-

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structor and graduate standing. Independent research into planning problems, issues, and theories.

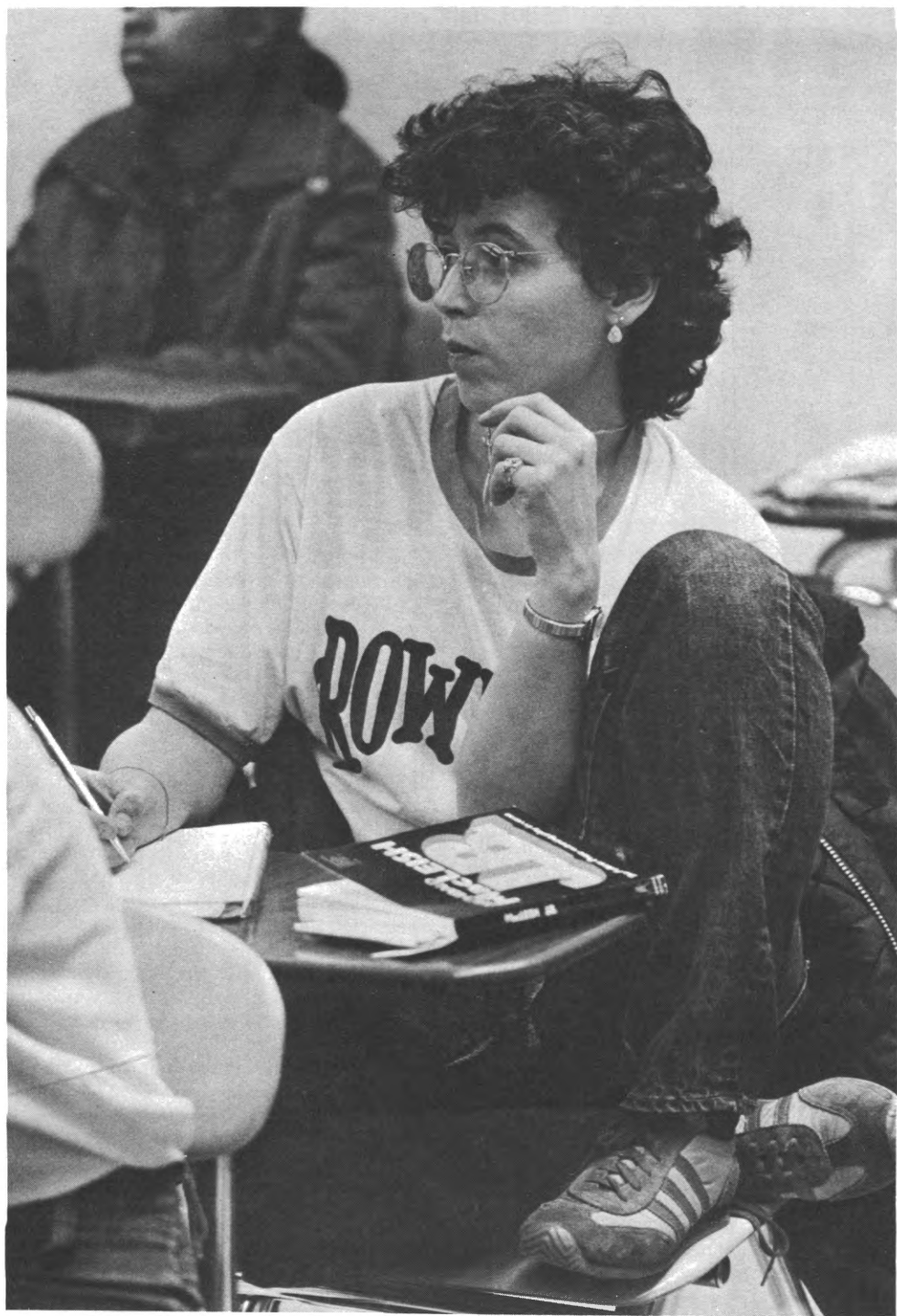
798 Thesis or Projects. 2-6 credits. Prerequisites: permission of instructor and appropriate research methods course. Planning, preparation, completion, and presentation of a thesis or project. URP 798 Projects is an acceptable substitute for URP 792 Planning Studio II. Consent of instructor and chairman required for this substitution.

For descriptions of courses in other departments, see that department's listings.

Center for Public Affairs

Ralph Hambrick, Director
Jennifer Lantrip, Assistant Director for Development
Jeanne B. Stinchcomb, Assistant Director of Continuing Education

The Center for Public Affairs is a newly created unit in the School of Community and Public Affairs designed to provide university-based assistance to federal, state, and local government and other publicly oriented organizations through applied research, continuing education and training, and technical assistance. The center does not grant degrees, but does work closely with academic departments. Student involvement through employment and individual and class projects is encouraged as opportunities are developed. Among other activities, the center is sponsoring a graduate curriculum concentration in Human Resource Development/Manpower in cooperation with the Department of Public Administration.



PART VIII—School of Education

ADMINISTRATIVE OFFICERS

CHARLES P. RUCH

Dean

WILLIAM J. JUDD

Assistant Dean

C. GORDON KEESEE, JR.

Director of Student Services

JOHN S. OEHLER, JR.

Director of Continuing Education

RIZPAH L. WELCH

Director of Educational Development Center
Complex

A. GAYNELLE WHITLOCK

Assistant Dean

The School of Education was formally established in 1964 as a part of Richmond Professional Institute. At that time the school granted bachelor's degrees in elementary education only and offered required courses for certification in some secondary fields.

Today, the School of Education offers various programs leading to the master's degree. Programs in administration and supervision, adult education, counselor education, distributive education, elementary education, English/English education, physical education, and special education are available. The School of Education's graduate programs emphasize field-based teaching experiences and research to enable students to tailor their courses of study to meet individual needs and professional interests.

The School of Education is accredited by

the Virginia Department of Education and the Southern Association of Schools and Colleges and holds membership in the American and Virginia Associations of Colleges of Teacher Education.

PURPOSE

The School of Education is committed to providing relevant programs responsive to the needs of various educational agencies and, at the same time, improving and enhancing the professional skills of its students. Primary purposes of the school are: to provide quality professional education which develops and refines teacher competencies in light of continuous social change; to nurture among faculty and students a deep involvement in educational research and scholarly activity which improves instructional procedures, assists school systems and agencies in identifying and solving educational problems, and enhances and extends knowledge of the field of education; and to provide continuing professional support services to public school systems and agencies in the Richmond metropolitan area and surrounding cities and counties.

FACILITIES

The majority of the facilities of the School of Education are housed in Oliver Hall,

which was opened in late 1975 and was designed to provide laboratory and activities centers for development of curriculum materials as well as the more traditional lecture classrooms.

The Teacher Resource Center is a multimedia materials development unit serving the entire school and includes a handsaw, drill press, assorted tools, latex enamels, a dry mount press, cardboard, and lumber. With these basic supplies plus a reference shelf of curriculum ideas, students are encouraged to build classroom learning centers, hand-built furniture, or other materials of instructional value for the classroom. Available also are collections of teacher materials on such topics as multicultural programs, mainstreaming, and metric education usage. Media and photography laboratories, including a TV/micro-teaching facility, offer students a setting to plan, develop, and criticize their own instructional strategies and materials.

A multi-sided, open-spaced area on the fourth floor is designed for a number of creative teaching activities. This laboratory classroom lends itself to dance movement demonstrations, art work displays, dramatic presentations, and symposiums on prominent education topics.

Throughout the building are demonstration classrooms, where a student is able to work with area children in an instructional role and be observed firsthand by instructors and classmates who evaluate the effectiveness of teaching strategies.

Other facilities utilized by the School of Education are the Child Study Center, the Day Care Center, the Reading Center, and the Adult Learning Center. At each center, students work with members of the community, faculty, and other students to foster educational growth. Taken together they form a complex of practicum locations for the comprehensive study of educational problems at any age.

Graduate work at VCU enables students to engage in or continue teaching experiences in local school systems or agencies in addition to the on-campus facilities. Such experiences allow students the opportunity to apply their learning in actual educational situations.

ORGANIZATION

The chief administrative office for the school is the Office of the Dean. The school is organized into the Divisions of Educational Services; Educational Studies and Adult and Vocational Education; Health and Physical Education; and Teacher Education.

OFFICE OF STUDENT SERVICES

The Office of Student Services serves as a center for information, materials, and applications necessary for certification and endorsement of educational personnel in Virginia. Coordination of placement for practicums, student teaching, internships, and externships is administered by this office. Student teachers and externs are placed primarily in the school systems of the city of Richmond; Henrico, Chesterfield, and Hanover Counties; and increasingly in Goochland, Powhatan, and New Kent Counties as well as the city of Petersburg.

Application forms and deadline dates are available in the Office of Student Services.

This office also coordinates information about and the administration of several national testing programs including the College Level Examination Program (CLEP), the Medical College Admissions Test (MCAT), the National Teacher Examinations (NTE), and the Graduate Record Examinations (GRE). Finally, the Office of Student services is responsible for the distribution and collection of all materials regarding application to graduate study in the School of Education.

OFFICE OF CONTINUING EDUCATION AND FIELD SERVICES

The Office of Continuing Education and Field Services coordinates all offerings in the area of continuing education for the school. Off-campus offerings and in-service training opportunities include day-long in-service events, a series of structured workshops designed for certificate renewal or graduate credit, credit or non-credit courses, degree programs, and field studies and evaluation projects.

EDUCATIONAL DEVELOPMENT CENTERS COMPLEX

The School of Education sponsors a number of service programs which are designed to support the degree programs. They provide major clinical resources for students and faculty. The educational development centers complex brings together a coordinated network of the following training/service units: the University Reading and Study Skills Center; the University Child Study Center; the Adult Learning Centers; and the University Day Care Center and Kindergarten. Each provides assistance to individuals while providing a basis for on-campus training and research.

The Reading Center has a multiple role. It provides reading improvement instruction specifically for incoming freshmen whose test scores indicate a need for basic skills improvement, and for other college students whose study skills need to be refined. In addition, the Reading Center performs a service to the community by offering diagnostic and remedial aid to children. Another role is that of giving students practical experience in working with children who need diagnosis and remedial assistance.

The Child Study Center sponsors three primary services: (1) opportunities for guided activities with children to enhance the professional education of prospective teachers, psychologists, and social workers, with particular emphasis on practicum experiences for students in the School of Education; (2) services available in local systems; and (3) provision of a research base for the comprehensive study of children.

The Reading and Child Study Centers also serve as materials centers for teacher trainees. Through these centers students are provided an opportunity to see and use a variety of instructional and testing materials.

Two well equipped Adult Learning Centers provide unique opportunities for students and other clientele. One center is located on the Medical College of Virginia Campus and the other is housed on the Academic Campus. Both centers utilize the latest advances in educational technology and individualized instruction where flexible scheduling is featured. Remedial and enrichment noncredit study programs are offered

in a variety of areas to VCU employees and college students.

Activities through the Day Care Center are designed to provide quality services for children of working parents. One purpose of the center is to provide quality day care for the children of university employees and students. When space permits, non-university associated families may use its facilities. Additionally, the Day Care Center provides practicum experiences for students on both campuses.

CERTIFICATION FOR EDUCATIONAL PERSONNEL

All graduate programs in the School of Education are approved by the Virginia Department of Education. Virginia is a member of the National Association of State Directors of Teacher Education and Certification (NASDTEC), which has a national reciprocity agreement for teacher certification. Certification is based in part on successful completion of an approved program developed in response to nationally recognized standards. All graduate programs within the School of Education have approved program status and are a part of the NASDTEC Certification Reciprocity Agreement.

Scores on the National Teacher Examinations (NTE) are required for the initial issuance of the Virginia teacher's certificate. An applicant for an initial certificate must take the Common Examinations and, in addition, an Area Examination in any field in which initial certification is sought. In those few fields where an Area Examination is not available through the Educational Testing Service, only the Common Examinations are required of candidates. The NTE requirements are in addition to all other requirements for certification. The NTE should normally be taken during the latter part of the term of expected graduation from the university.

Scores from the NTE should be reported by the student to Virginia Commonwealth University and the Virginia Department of Education. These scores must be on file with the Office of Student Services, School of Education before a recommendation for certification can be sent to the Virginia Depart-

ment of Education—Teacher Certification Division. Further information may be obtained from the faculty advisor or the Office of Student Services, School of Education.

ADMISSION TO CLINICAL TEACHER EDUCATION

All students seeking a recommendation for initial certification upon graduation must complete the clinical teacher education component in addition to other degree and certification requirements. This component includes a practicum (EDU 310 or its equivalent) and Directed Student Teaching (EDU 485, 486, 490). Practicum and Directed Student Teaching may not be taken concurrently.

Admission to this component is selective and is in addition to admission to a teacher education degree program. Students should seek admission to this component approximately between the 60th and 75th semester hour. Requirements for admission to clinical teacher education include: (a) an overall quality point average of 2.2 or above, (b) a quality point average in major teaching area of 2.7 or above, and (c) a recommendation from advisor. Application forms are available and should be returned to the Office of Student Services, School of Education.

Admission to the clinical teacher education component is a prerequisite to enrolling in Practicum (EDU 310) or its equivalent. (For elementary education majors, EDU 322 or 325 and EDU 427). Successful completion of Practicum with a grade of "C" or better and a recommendation from practicum supervisor are a prerequisite for enrolling in Directed Student Teaching (EDU 485, 486, 490).

Application for placement in a student teaching assignment must be made *the semester prior* to that during which the applicant expects to student teach. Applications are available and should be returned to the Office of Student Services, School of Education.

POST-MASTER'S DEGREE OPPORTUNITIES

The School of Education at Virginia Commonwealth University has an interinstitutional agreement with the College of Educa-

tion at Virginia Polytechnic Institute and State University in Blacksburg for cooperative post-master's degree work in Richmond. Work is offered in educational leadership, adult education, community college, and student personnel services. Interested students are encouraged to write to the Office of Student Services, School of Education, for specific information and applications.

In addition, the school has an articulation agreement with the College of William and Mary in the area of counselor education. The basic purposes of the articulation agreement that established this program are to enhance the offerings in counseling at both institutions, create flexibility in course options for students, and expand the resources available to students at both institutions. The degree is a Doctor of Education and will be awarded by William and Mary.

All students applying for admission to the doctoral program will apply directly to William and Mary and will be required to meet the admissions criteria and procedures of William and Mary. A joint faculty committee of the Division of Psychological Foundations and Services (W and M) and the Division of Educational Services, Counselor Education (VCU) will examine applications for consideration for the Admissions Committee, School of Education, The College of William and Mary.

The curriculum in the program is quite flexible, allowing students to pursue their special interests. The major areas of concentration are

- Student Personnel Services in Higher Education
- Community College Counseling
- Agency and Community Counseling
- Secondary School Counseling and Guidance
- Elementary School Counseling and Guidance
- Marriage and Family Counseling

FINANCIAL AID

Financial aid is available for full-time students. Scholarships and assistantships are awarded on the basis of scholarship and need. Scholarships can be awarded only to students who are legal residents of Virginia; assistantships may be awarded to non-

residents. All applicants for financial aid must be admitted to a graduate program and attending full time. Scholarships awarded usually range from \$250 to \$1,000 for the academic year. Assistantships average \$2,400 for the academic year. The deadline for making application is August 15, and forms may be obtained from the Office of Student Services.

DEGREE PROGRAMS

The School of Education grants one of three master's degrees to candidates completing all appropriate degree requirements. A Master of Education degree is offered in nine areas: administration and supervision, adult education, counselor education, distributive education, elementary education, mathematics education, special education-emotionally disturbed, special education-learning disabilities, and special education-mental retardation. A Master of Science degree is offered in physical education and a Master of Arts degree in English/English education.

ADMISSION

Any student holding an earned baccalaureate degree from an institution acceptable to Virginia Commonwealth University may take appropriate graduate level courses. However, only six semester hours of appropriate graduate credit may be transferred toward a degree. This regulation applies whether the courses have been taken at Virginia Commonwealth University prior to admission or whether the courses are accepted on transfer from another institution.

Admission to a degree program involves admission to both graduate study in the School of Education and to a specific degree program. Some individual degree programs have admission requirements beyond the general school requirements. Applicants complete one set of credentials specifying the degree program to which they are seeking admission.

PROCEDURES

The Office of Student Services is the distribution and collection office for all materials related to graduate program admission in the School of Education. An admission packet containing all materials need-

ed to apply for graduate study may be obtained from the Office of Student Services, School of Education, Oliver Hall, Room 2087, Virginia Commonwealth University, Richmond, VA 23284.

Completed materials, transcripts, test scores, and all inquiries regarding admission should be directed to this office.

Upon receipt of all materials, the applicant's credentials will be reviewed by the Admissions Committee, composed of one representative from each division, with the director of student services serving as chairman.

GENERAL ADMISSION REQUIREMENTS

The admission decision will be made on an overall analysis of the following:

1. A minimum grade point average of 2.8 on a 4.0 point scale on the last 60 semester hours of undergraduate academic study.
2. A minimum acceptable score on the Graduate Record Examinations or Miller Analogies Test as specified in the requirements of the degree program to which the applicant is seeking admission.
3. An interview with the applicant may be required by the core faculty to which the applicant is seeking admission.
4. An applicant whose grade point average is below 2.4 on a 4.0 point scale on the last 60 semester hours of undergraduate course work and a less than acceptable score on the designated standardized examination will be rejected.

ELIGIBILITY FOR PROVISIONAL ADMISSION WITH CORE FACULTY APPROVAL

1. Applicants whose grade-point average during the last 60 semester hours of undergraduate course work falls between 2.4 and 2.79 on a 4.0 point scale would be considered for provisional admission based on the strength of scores on the designated admissions examination or other evidence of potential as determined by the core faculty.
2. Applicants whose scores fall below the minimum acceptable score on the Graduate Record Examination or Miller

Analogies Test would be eligible only for provisional admission as determined by the core faculty.

3. The core faculty will review each provisional status application. In the review process, an interview with the applicant may be required. Additional qualifications, as defined by the core faculty, will also be considered at the time of review.
4. Applicants who accept admission on provisional status must take a minimum of three graduate level courses (nine semester hours) designated by their advisor.
5. A provisionally admitted student who earns a "C" or below in the first nine hours of course work designated by the advisor is no longer eligible to continue as a degree-seeking student in that core program.

SPECIFIC PROGRAM REQUIREMENTS

Programs in the Division of Educational Services

1. Administration and Supervision. Applicants should have a minimum of two years successful teaching or equivalent experience. Ordinarily, the applicant will have an undergraduate degree which qualifies the applicant for professional certification as a teacher.

2. Counselor Education. Applicants anticipating endorsements as guidance counselors in Virginia public schools should hold a valid professional teaching certificate and a minimum of one year's teaching experience.

3. Special Education. The programs in special education require that a student applying for admission have a valid professional teaching certificate in an area of special education or meet that requirement prior to the granting of a Master of Education degree. For the program in learning disabilities, applicants must have a minimum of two years' successful teaching experience. For the program in emotional disturbance, one year of teaching experience is recommended, and a personal interview with program faculty is required. The pre-school handicapped program requires two years of teaching experience.

Programs in the Division of Teacher Education

Applicants should hold a valid professional teaching certificate in an area of elementary education or meet that requirement prior to the granting of a Master of Education degree.

Secondary Education (mathematics education or English/English education) applicants must hold a valid professional teaching certificate in the appropriate field or complete all certification requirements prior to the granting of a Master of Education degree.

Programs in the Division of Health and Physical Education

Applicants who are currently in or planning to enter the teaching profession should hold a valid professional teaching certificate in physical education or meet that requirement prior to the granting of the Master of Science degree. For students who did not major in physical education at the baccalaureate level, certain courses and experiences at the undergraduate level may be required prior to admission to full graduate status.

Programs in the Division of Educational Studies

Adult Education

No specific program requirement

General program requirements

All students must maintain a 3.0 grade-point average on courses required by the degree program. Students who receive a grade of "C" or below on more than two of the total courses required by the degree program will be automatically dropped from that program.

GENERAL DEGREE REQUIREMENTS

The recommendation to confer a Master of Education or Master of Science degree is made by the faculty upon satisfactory completion of all degree requirements. These include successful completion of an approved plan of study, admission to candidacy, successful completion of a comprehensive examination, and a completed application for graduation. Each step is discussed below.

I. Program of Study

An approved program of study consisting of no less than 33 semester hours of graduate credit is required for the master's degree in the School of Education. The distribution of credit is as follows:

- A. Foundations (nine hours distributed as outlined below).
- B. Program (minimum of 15 hours). Each candidate will complete at least 15 hours of graduate credit in a field of concentration as approved by the student's advisor.
- C. Electives. Each candidate may take electives that are related to the field of study or which will provide balance and breadth in the total program. Specific electives must be approved by the student's advisor.
- D. Thesis or additional credit. These may be required in a specific degree program.

Foundations Requirements. All students will complete nine semester hours of work selected from approved courses in these foundational areas. Students must select one three-hour course from each of the following areas: human development and learning; cultural, historical, and philosophical; and research. Courses meeting the foundations requirement include:

- A. Human Development and Learning
 - EDU 602 Adolescent Growth and Development
 - EDU 603 Seminar in Child Growth and Development
 - EDU 605 Psychology in the Schools
 - PSY 607 Advanced Educational Psychology
 - EDU 609 Learning Strategies for the Classroom
- B. Cultural, Historical, and Philosophical
 - EDU 601 Philosophy of Education
 - EDU 607 Social Foundations of Education
 - EDU 608 History of Western Education
 - EDU 612 Education and the World's Future
 - EDU 614 Contemporary Educational Thought
- C. Research
 - EDU 606 Review of Research

EDU 660 Methods of Research
PHE 602 Development of Research
Techniques in Physical Education

Transfer Credit. A degree program in the School of Education is a carefully determined sequence. For this reason, transfer credit is not encouraged. A maximum of six semester hours of acceptable graduate credit earned from an appropriately accredited institution may be transferred and applied to degree programs in the school of Education. This regulation applies to graduate courses taken at Virginia Commonwealth University and to courses from other accredited institutions.

Disposition of transfer credits offered by the applicant will be made by core faculty or a representative committee of the core following admission to candidacy.

As a general rule, continuing education courses taken at institutions other than Virginia Commonwealth University will not be transferred.

Admitted students may transfer up to six hours of credit, if they receive the approval of their advisor and department chairman *prior* to taking the credit.

Student Program Planning. Before enrolling in any graduate courses following admission to a program of study, the student must complete and have approved a program plan. The program plan, developed cooperatively by the student and his advisor and filed in the Office of Student Services, will outline the sequence of experiences the student will include in his degree program. *No departure from this proposed program of study will be permitted without the student's written request and the approval of the student's advisor and the division chairman. This request must be filed with the Office of Student Services in the School of Education.*

II. Admission to Candidacy

Admission to graduate study does not constitute candidacy for a degree. Rather, a student who has been admitted to graduate study is advanced to degree candidacy upon the recommendation of the division in which the degree is sought.

- A. Advancement to degree candidacy requires that the student must have com-

pleted at least nine but not more than 15 semester hours with a minimum grade point average of 3.0.

- B. At least nine of the 15 hours being considered must have been taken in the core program from which the student is seeking degree candidacy.
- C. The core faculty or a representative committee of the core will review each application submitted for candidacy. Additional qualifications, as defined by the core faculty, will also be considered at the time of review.
- D. Following the review, the student will be notified in writing regarding candidacy status.

Advancement to degree candidacy requires that the candidate must have completed at least nine but no more than 15 semester hours of graduate study with a minimum grade point average of 3.0; clearly demonstrated the aptitude and ability to pursue graduate work, including independent study; exhibited a commitment to education as a profession; and demonstrated promise for a successful career in the field selected in terms of temperament and personality. Specific courses may be required prior to application for candidacy. Admission to degree candidacy is not an automatic process, but rather the application for candidacy is approved by the division only after careful evaluation of all pertinent factors. Only students who have been admitted to candidacy may pursue additional work toward the degree.

III. COMPREHENSIVE EXAMINATION

- A. All students in a graduate program in the School of Education must take a written comprehensive examination of at least three hours duration prior to receiving the degree.
- B. The comprehensive examination dates, designated in the current *VCU Graduate Bulletin* will remain in effect. All comprehensive examinations must be taken on dates indicated except for religious or health reasons. Any exceptions must be approved in advance by the division chairman.
- C. A minimum of three faculty members, designated by the core, will evaluate each examination independently. Satisfactory performance on the comprehensive examination requires approval of two of the three evaluators.

- D. Any student failing the comprehensive examination must have a joint conference with at least two core faculty members, one of which is the student's advisor, before taking the comprehensive examination the second time.
 - 1. During the conference the core faculty members may recommend additional academic preparation and/or competencies which must be met by the student prior to taking the comprehensive examination the second time.
 - 2. The student will be notified by letter of the recommendations made by the core faculty in the conference.
- E. The student will have only two opportunities to take the comprehensive examination.
- F. Failure to pass the comprehensive examination the second time will result in the student being dropped from the degree program.

IV. Application for Graduation

Each student who expects to complete his degree requirements by the end of a semester or summer session is required to file an application for degree. Applications are available from the Office of the University Registrar and must be submitted by the students to their advisors no later than the dates indicated in the calendar appearing in the *front* of this bulletin. Students should allow time for a conference with their advisors and should note that the application requires the approval of the division chairman and dean.

SPECIFIC DEGREE REQUIREMENTS

A degree program in the School of Education is a carefully determined sequence of courses and experiences. Each program is individually designed within degree requirements, through the cooperative efforts of the students and the advisor, and must be filed in the Office of Student Services. The following materials explicate the usual degree course requirements; however, they are not a substitute for the advisement pro-

cess. No student's program of study will be considered final until it has been approved

by an advisor and filed in the Office of Student Services.

| Steps to Completing a Master's Degree | | |
|--|--|---|
| STEP | WHEN | WHERE |
| 1. Admission | 0—6 Hours | Office of Student Services |
| 2. Program of studies | 0—6 Hours | With advisor, approved by division chairman |
| 3. Candidacy | 9—15 Hours | Application approved by advisor, program faculty, chairman, Office of Student Services |
| 4. Comprehensive examination | 30 semester hours or beyond | Application to Division Office |
| 5. Externship or internship | Usually last semester of course work | Application from Office of Student Services |
| 6. Application for graduation | Last semester of course work. Deadline in current bulletin | Application from registrar approved by advisor, division chairman, dean's office and returned to registrar's office |

Division of Educational Services

FACULTY

Professors: Beale; Bost (Chairman); Duncan; Fallen; Keese; Ruch; Sparks; Welch
 Emeriti Professors: Fleming; Mapp; Willett
 Associate Professors: Blankenship; Crowe; Fuhrmann; Garner; Gumaer; Judd; Lokerson; Seyfarth; Sharman; Wehman; Whitlock
 Assistant Professors: Beers; Giacobbe; Hill; Lambie; Pajak; Schneider; Schwieder; Wood

Graduate programs in this division include Master of Education degrees in administration; supervision; guidance and counseling; and in the special education areas of mental retardation, learning disabilities, and behavior disorders (emotionally disturbed). Special concentrations are also available in preschool handicapped, classroom guidance, vocational technical education, and library/media. A joint program with the School of Social Work provides a dual certification for both counselor and visiting teacher. Also available through the School of Social Work is a cooperative certification program in school social work.

The basic programs leading to a Master of Education degree in mental retardation,

learning disabilities, or behavior disorders (emotionally disturbed) assume that the student holds an initial educational certificate. Students who are not certified may enter the program and receive both the master's degree and initial certification by taking additional courses. Successful completion of the degree programs leads to endorsement in mental retardation, learning disabilities, or behavior disorders (emotionally disturbed).

In the graduate program in mental retardation, particular attention is focused on research and development in the area of mental retardation. Varied theories and experiences are provided as a means of fostering greater understanding of curriculum development, supervision, school administration, and the role of the school in our culture. The core of the preparation program in mental retardation centers around providing skills in the diagnostic/prescriptive area. This program will require approximately two years of full-time study for completion.

The graduate program in learning disabilities has been designed to develop and define the competencies of teachers for work with learning disabled students in resource

and self-contained settings at all levels and in a variety of cultural environments. Professional skills emphasized in the basic program include the abilities to recognize educational and social problems in students with learning disabilities, to formulate effective individualized instructional programs using a variety of methodologies, and to consult productively with appropriate personnel in the development of maximum educational opportunities for learning disabled students. Concentrations within the master's degree program allow graduates to 1) develop in-depth knowledge of learning disabilities, 2) focus on the learning disabled adolescent, or 3) become skilled as an educational diagnostician. Endorsement in other areas may be initiated or completed with careful advisement and planning. For details see the M.Ed. program in special education-learning disabilities which follows.

The master's degree program in behavior disorders is designed to provide teachers the professional competencies needed to work in resource or crisis rooms, self-contained classrooms, or residential settings. In developing these competencies, the program focuses on specific teaching strategies used in the diagnosis and remediation of behavior and learning problems associated with the emotionally disturbed. Additionally, the program endeavors to develop skills in promoting positive parental and professional interactions. An innovative field-based component is available to selected full-time graduate students including extensive externship experiences with pupils in a continuum of special education settings. Work in the field-based component is provided through courses which integrate the students' daily experiences with current research and theory.

The approved program in the area of preschool handicapping conditions is a sequentially planned series of courses and clinical experience designed to equip experienced teachers with the necessary skills and knowledge to effectively teach young handicapped children. Requirements for admission include the Collegiate Professional Certificate and two years of successful teaching experience with elementary or special education children.

M.ED. PROGRAM IN ADMINISTRATION AND SUPERVISION

| Administration Option | Credits |
|--|---------|
| Foundations Core | 9 |
| EDU 606 Review of Research (Leadership) | 3 |
| EDU 609 Learning Strategies for the Classroom | 3 |
| (Cultural, Historical, Philosophical) | 3 |
| Program Core (21 semester hours) | 21 |
| ASE 600 Public School Administration | 3 |
| ASE 610 School and Community Relations | 3 |
| EEL 600 Curriculum Development | 3 |
| ASE 611 School Law | 3 |
| ASE 602 Seminar in Elementary School Administration or ASE 603 Seminar in Secondary School Administration | 3 |
| ASE 601 Supervision of Instruction | 3 |
| EDU 700 Externship | 3 |
| Electives from Related Areas | 9 |
| (Select any three of the following) | |
| EDU 502 Guidance | 3 |
| COE 603 Group Procedures | 3 |
| EDU 551 Survey of Special Education | 3 |
| ASE 640 Public School Finance | 3 |
| ASE 641 School Personnel Administration | 3 |
| BUS 633 Issues in Labor Relations | 3 |
| BUS 641 Organizational Behavior | 3 |
| EDU 649 Educational Media: Theory and Practice | 3 |
| | 39 |

Dual Major Option— Administration and Supervision

Administration majors wishing dual certification in administration and supervision must complete requirements in administration foundations and program core and in addition select ASE 620 Evaluation of Instruction for Supervisors and a three-hour graduate course in media. In addition, they are required to select six hours from the general electives described in the administration electives. This dual certification option requires a 42 semester hour degree program.

| Supervision Option | Credits |
|--|---------|
| Foundations Core (9 semester hours) | 9 |
| EDU 606 Review of Research (Leadership) | 3 |
| EDU 609 Learning Strategies for the Classroom | 3 |
| (Cultural, Historical, Philosophical) | 3 |
| Program Core (21 semester hours) | 21 |
| ASE 600 Public School Administration | 3 |
| EDU 531 Creative Teaching | 3 |
| EEL 600 Curriculum Development | 3 |
| ASE 601 Supervision of Instruction | 3 |

| | |
|--|----|
| EDU 648 Preparation of Instructional Materials | 3 |
| ASE 620 Evaluation of Instruction | 3 |
| EDU 672 Internship | 3 |
| General Electives (9 semester hours) | 9 |
| (Select any three of the following) | |
| EDU 502 Guidance | 3 |
| EDU 504 Film as a Teaching Medium | 3 |
| EDU 507 Educational Media: Utilization | 3 |
| EDU 509 TV in the Classroom | 3 |
| COE 603 Group Procedures | 3 |
| EDU 534 Photography in Instruction | 3 |
| EDU 551 Survey of Special Education | 3 |
| ASE 640 Public School Finance | 3 |
| ASE 641 School Personnel Administration | 3 |
| | 39 |

Dual Major Option— Supervision and Administration

Some supervision majors may wish dual certification in supervision and administration. In such cases, these students must complete the requirements for the supervision core and also complete ASE 610 School and Community Relations and ASE 611 School Law. In addition, they are required to elect six hours from the general electives described in the supervision program. This dual certification option requires a 42 semester hour degree program.

| | |
|---|----------------|
| Vocational-Technical Education Option | Credits |
| Foundations Core (9 semester hours) | 9 |
| EDU 606 Review of Research | 3 |
| EDU 609 Learning Strategies for the Classroom | 3 |
| (Cultural, Historical, Philosophical) | 3 |
| Program Core (33 semester hours) | 33 |
| ASE 610 School and Community Relations | 3 |
| EDU 615 Curriculum Development | 3 |
| EDU 619 Organization and Administration of Vocational-Technical Education | 3 |
| ASE 600 Public School Administration | 3 |
| ASE 611 School Law | 3 |
| ASE 602 Seminar in Elementary School Administration or | |
| ASE 603 Seminar in Secondary School Administration | 3 |
| ASE 601 Supervision of Instruction | 3 |
| EDU 659 History and Philosophy of Vocational-Technical Education | 3 |
| EDU 663 Curriculum Development in Vocational-Technical Education | 3 |
| EDU 665 Supervision of Instruction in Vocational-Technical Education | 3 |
| EDU 700 Externship | 3 |
| | 42 |

Supervisors may wish to seek dual cer-

tification as a school librarian as well as in supervision. Alternatively, a supervision student may wish to develop competence in instructional media. In addition to the foundations and four required supervision courses, students selecting either alternative must select 18-21 hours from the library/media courses available.

| | |
|---|----------------|
| Library/Media Option (Certification) | Credits |
| Foundations Core (9 semester hours) | 9 |
| EDU 606 Review of Research (Leadership) | 3 |
| EDU 609 Learning Strategies for the Classroom | 3 |
| (Cultural, Historical, Philosophical) | 3 |
| Program Core (30-33 semester hours) | 30-33 |
| EDU 615 Curriculum Development | 3 |
| ASE 600 Public School Administration | 3 |
| ASE 601 Supervision of Instruction | 3 |
| ASE 620 Evaluation of Instruction | 3 |
| 'EDU 507 Educational Media: Utilization | 3 |
| 'EDU 595 Reference and Bibliography | 3 |
| 'EDU 596 Library Organization | 3 |
| 'EDU 597 Cataloging and Classification | 3 |
| 'EDU 672 Internship | 3 |
| EDU 528 Children's Literature | 3 |
| EDU 533 Adolescent Literature | 3 |
| | 39-42 |

| | |
|---|----------------|
| Educational Media Option (Non-certification) | Credits |
| Foundations Core (9 semester hours) | 9 |
| EDU 606 Review of Research (Leadership) | 3 |
| EDU 609 Learning Strategies for the Classroom | 3 |
| (Cultural, Historical, Philosophical) | 3 |
| Program Core (30 semester hours) | 30 |
| EDU 615 Curriculum Development | 3 |
| ASE 600 Public School Administration | 3 |
| ASE 601 Supervision of Instruction | 3 |
| ASE 620 Evaluation of Instruction for Supervisors | 3 |
| EDU 507 Educational Media: Utilization | 3 |
| EDU 509 TV in the Classroom | 3 |
| EDU 534 Photography in Instruction | 3 |
| EDU 648 Preparation of Instructional Materials | 3 |
| EDU 649 Educational Media: Theory and Practice | 3 |
| EDU 651 Topics-Media Center Development | 3 |
| | 39 |

M.ED. PROGRAM IN COUNSELOR EDUCATION

| | |
|---|----------------|
| | Credits |
| Foundations Core | 9 |
| Program Core (24-27 semester hours minimum) | 24-27 |
| EDU 502 Introduction to Guidance | 3 |
| COE 601 Theories of Counseling | 3 |
| COE 602 Counseling Techniques | 3 |
| COE 605 Career Information and Exploration | 3 |
| COE 606 Assessment Techniques for Counselors | 3 |
| COE 603 Group Procedures in Counseling and Guidance | 3 |
| COE 604 Group and Interpersonal Relations | 3 |
| EDU 672 Internship | 3 |
| COE 610 Guidance in the Elementary School | 3 |

*Required for Certification in School Library.

| | |
|---|-----|
| COE 611 Guidance in the Middle School | 3 |
| General Electives | 3-6 |
| | 39 |

M.ED. PROGRAM IN COUNSELOR EDUCATION

| Classroom Guidance Concentration | <i>Credits</i> |
|--|----------------|
| Foundations Core | 9 |
| Program Core (18 semester hours minimum) | 18 |
| EDU 502 Introduction to Guidance | 3 |
| COE 601 Theories of Counseling | |

or

| | |
|---|----|
| EDU 514 Parent-Child Relations | |
| or | |
| An approved elective | 3 |
| COE 605 Career Information and Exploration . . . | 3 |
| COE 603 Group Procedures in Counseling and Guidance | 3 |
| EDU 662 Educational Measurement and Evaluation | 3 |
| COE 621 Guidance Seminar | 3 |
| General Electives | 6 |
| | 33 |

M.ED. PROGRAM IN COUNSELOR EDUCATION

| Dual Certification: Counselor and Visiting Teacher | <i>Credits</i> |
|---|----------------|
| Foundations Core | 9 |
| Program Core (18-21 semester hours minimum) . . | 18-21 |
| EDU 502 Introduction to Guidance | 3 |
| COE 601 Theories of Counseling | 3 |
| COE 605 Career Information and Exploration . . . | 3 |
| COE 606 Assessment Techniques for Counselors . | 3 |
| COE 603 Group Procedures in Counseling and Guidance | 3 |
| EDU 672 Internship | 3 |
| COE 610 Guidance in the Elementary School . . . | 3 |
| Visiting Teacher: | |
| Program Core (15 semester hours minimum) . . . | 15 |
| EDU 568 Psycho-Educational Diagnosis of Children | |

or

| | |
|--|---|
| LDS 600 Characteristics of the Learning Disabled. | 3 |
| SLW 601 Fundamentals of Social Case Work . . . | 3 |
| SLW 703 Social Work Practices in Communities and Organizations | 3 |
| SLW 750 Social Work Practice in School Settings . | 3 |
| SLW 615 Dynamics of the Family | |

or

| | |
|--|-------|
| SLW 767 Social Work Practice and Policy in Child Welfare | 3 |
| | 42-45 |

M.ED PROGRAM IN SPECIAL EDUCATION—MENTAL RETARDATION

(Limited to students holding endorsement in mental retardation)

| | <i>Credits</i> |
|----------------------------|----------------|
| Foundations Core | 9 |
| Program Core | 21 |

| | |
|---|----|
| MRT 600 Language Development of Severely Handicapped Children | 3 |
| MRT 601 Curriculum Design for the Mentally Retarded | 3 |
| ASE 623 Administration and Supervision of Special Education | 3 |
| EDU 700 Externship | 6 |
| EDU 701 Thesis or two approved courses | 6 |
| Restricted Electives from Related Areas | 6 |
| | 36 |

M.ED. PROGRAM IN SPECIAL EDUCATION—LEARNING DISABILITIES

| | <i>Credits</i> |
|---|----------------|
| Foundations Core | 9 |
| (Must include PSY 607 Advanced Educational Psychology) | |
| Basic Specialization Core | 18 |
| EDU 551 Survey of Special Education | 3 |
| EDU 568 Psycho-Educational Diagnosis | 3 |
| LDS 600 Characteristics of the Learning Disabled | 3 |
| LDS 601 Methods of Clinical Teaching | 3 |
| EDU 700 Externship: Learning Disabilities | 6 |
| Related Areas Core (Select two courses from a restricted list, with advisement) | 6 |
| Concentration Core | 6-12 |
| Intensive Learning Disabilities Concentration (Select two courses with advisement) | 6 |
| Educational Diagnostician Concentration | 12 |
| LDS 620 Advanced Educational Diagnosis of Developmental Processes | 3 |
| LDS 621 Advanced Educational Diagnosis of Learning Problems | 3 |
| EDU 700 Externship: Educational Diagnostician (Restricted Elective) | 3 |
| Adolescent Learning Disabilities Concentration . | 6 |
| LDS 611 Teaching the Learning Disabled Adolescent | 3 |
| (Restricted Elective) | 3 |
| | 39-45 |

M.ED. PROGRAM IN SPECIAL EDUCATION—BEHAVIOR DISORDERS (Emotionally Disturbed)

| | <i>Credits</i> |
|---|----------------|
| Foundations Core | 9 |
| Program Core | 33 |
| EDU 551 Survey of Special Education | 3 |
| EDU 568 Psychoeducational Diagnosis | 3 |
| EMO 600 Characteristics of the Behavior Disordered | 3 |
| EMO 601 Teaching the Behavior Disordered . . . | 3 |
| EMO 602 Classroom Management of the Behavior Disordered | 3 |
| EMO 603 Human Interaction in Teaching | 3 |
| EDU 566 Remedial Reading | 3 |
| EDU 700 Externship: Behavior Disorders | 6 |
| EDU 701 Thesis or two approved electives | 6 |
| (Students who choose to do a thesis must complete EDU 660 Methods of Research as a foundations course; students who do not do a thesis must complete EDU 606 Review of Research.) | 42 |

M.ED. IN MENTAL RETARDATION

| (Pre-School Handicapped Concentration) | | <i>Credits</i> |
|---|----|----------------|
| Foundations Core..... | 9 | |
| Program Core..... | 30 | |
| Specific Endorsement Requirements | | |
| EDU 551 Survey of Special Education | 3 | |
| or | | |
| EDU 565 Young Children With Special Needs | | |
| EDU 674 Assessment of Young Handicapped Children | 3 | |
| MRT 610 Teaching Strategies for the Severely Handicapped | 3 | |
| EDU 603 Seminar in Child Growth and Development (completed as a foundations course) | | |
| EDU 676 Instructional Program for Pre-school Handicapped Children | 3 | |
| EDU 671 Parent-Professional Partnership | 3 | |
| EDU 675 Case and Program Management for Teachers for the Pre-school Handicapped | 3 | |
| EDU 700 Externship | 6 | |
| EDU 701 Thesis or two courses at the 600 level or above | 6 | |
| Electives from Related Areas | | |
| EDU 538 Orientation to Speech and Language Disorders | 3 | |
| EDU 558 Characteristics of the Physically Handicapped | 3 | |
| EDU 570 Medical Aspects of Crippling Conditions | 3 | |
| EDU 575 Cross Cultural Communication | 3 | |
| EDU 578 Creative Rhythmic Movement | 3 | |
| EEL 622 Programs in Early Childhood | 3 | |
| EDU 648 Preparation of Instructional Materials .. | 3 | |
| MRT 600 Language Development in the Severely Handicapped | 3 | |
| | 39 | |

Distributive Education

Because the teaching of distributive education often involves active participation of community businesses and agency representatives, a primary objective of the graduate program in distributive education is the development of the student's ability to analyze community needs and plan, organize, promote, and administer adult distributive education programs.

Courses are geared to equip students with advanced instructional techniques designed to increase competency in the selection and use of media and teaching materials.

M.ED. PROGRAM IN DISTRIBUTIVE EDUCATION

| | <i>Credits</i> |
|----------------------------|----------------|
| Foundations Core..... | 9 |
| Program Core..... | 15 |
| Professional Courses | 9 |

Selected from:

| | |
|--|---|
| DIE 500 Techniques of Coordination in Distributive Education | 3 |
| DIE 501 Distributive Education Adult Programs .. | 3 |
| DIE 600 Improvement of Instruction in Distributive Education | 3 |
| DIE 601 Materials and Methods in Project Construction | 3 |
| DIE 603 Supervisory Leadership in Distributive Education | 3 |
| EDU 618 Curriculum Construction | 3 |
| Program Specialty Options | 6 |

Selected from:

| | |
|---|---|
| Vocational Educational Administration | |
| EDU 619 Organization and Administration in Vocational-Technical Education | 3 |
| EDU 659 History and Philosophy of Vocational-Technical Education | 3 |
| EDU 663 Curriculum Development in Vocational-Technical Education | 3 |
| EDU 665 Supervision of Instruction in Vocational-Technical Education | 3 |
| Community College Education | |
| ADE 610 Community College History and Development | 3 |
| ADE 611 The Community College Student | 3 |
| ADE 612 Community College Organization and Administration | 3 |
| ADE 613 Community College Staff Development and Supervision | 3 |
| Adult Education | |
| ADE 600 Adult Education Movement | 3 |
| ADE 601 The Adult Learner | 3 |
| ADE 602 Instructive Strategies for Adults | 3 |
| ADE 604 Adult Education Seminar | 3 |
| Electives | 9 |

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Vocational-Technical Education

Vocational-technical education certification courses are available that meet the Division of Vocational Education's requirement for supervisory positions in vocational education. Certification requirements for these positions were changed July 1, 1975. A Postgraduate Professional Certificate is mandatory for full certification. For additional information, interested individuals should contact Dr. Vivien K. Ely, 257-1332.

Division of Educational Studies**FACULTY**

Professors: Vacca (Chairman); Bailey; Briggs; Ely; Ozmon; Sherron; Standberg
Associate Professors: Craver; Hephner; Lavery; Londoner; Schumacher
Assistant Professors: Jacobs; Linder; Ramey

This division offers two graduate pro-

grams leading to a Master of Education degree. The Master of Education degree is awarded in adult education and distributive education.

Generally, a student entering one of the graduate programs in the division is required to possess an appropriate certificate for public school teaching. Students who do not hold the appropriate certificate must complete all certification requirements through program planning of their graduate work. It is possible to take program courses and to engage in program experiences at the graduate level which meet both degree and certification requirements. Under such circumstances, graduate student may take additional undergraduate or graduate work for certification while pursuing the graduate degree program.

Adult Education

The adult education program is designed to provide professional growth experiences that will increase the skills and understanding needed to plan, implement, manage, and evaluate educational programs for adults. Opportunities exist to individually design programs of study with emphasis in the following areas: adult literacy training, continuing education, community college education, vocational-technical training, health sciences, allied health services, human resource development, religious education, correctional institution education, educational gerontology, and educational media.

M.ED PROGRAM IN ADULT EDUCATION

| | <i>Credits</i> |
|--|----------------|
| Foundations Core | 9 |
| Program Core | 15 |
| ADE 600 Adult Education Movement | 3 |
| ADE 601 The Adult Learner | 3 |
| ADE 602 Instructional Strategies for Adults .. | 3 |
| ADE 603 Adult Program Management and Evaluation | 3 |
| ADE 604 Adult Education Seminar | 3 |
| Electives | 12 |
| | 36 |

Post-master's degree and doctoral study in adult education and community college education is available through a cooperative effort with Virginia Polytechnic Institute and State University. For more information contact Dr. Carroll Londoner, 257-1332.

Educational Studies

The educational studies core offers service courses at both the undergraduate and graduate levels to all existing programs in the School of Education. At the graduate level the core offers courses which fulfill the foundations requirements of all the master's degree programs. Educational studies include the following areas of concentration in education: the philosophical, psychological, historical, and cultural aspects of education, and educational research and evaluation.

Graduate Courses in Educational Studies

- EDU 601 Philosophy of Education
- EDU 602 Adolescent Growth and Development
- EDU 603 Seminar in Child Growth and Development
- EDU 605 Psychology in the Schools
- EDU 606 Review of Research
- EDU 607 Social Foundations of Education
- EDU 608 History of Western Education
- EDU 609 Learning Strategies for the Classroom
- EDU 612 Education and the World's Future
- EDU 614 Contemporary Educational Thought
- EDU 641 Independent Study
- EDU 651 Topics in Education
- EDU 660 Research Methods in Education
- EDU 661 Educational Evaluation: Models and Designs
- EDU 662 Educational Measurement and Evaluation

Division of Health and Physical Education

FACULTY

Professor: Dintiman (Chairman)
Associate Professors: Allen; Davis; Groves; Schlitz
Assistant Professors: Davis; Magill; Newcombe; Pennington; Pratt; Royster; Stone; Tsuchiya

The graduate program in health and physical education seeks to provide an opportunity for each student to achieve his potential as a professional. Specific goals of the department are to provide knowledge, application, and practical experiences which will improve the graduate student's teaching ability and enhance his attitude toward the education profession in general and physical education in particular. Students are encouraged to concentrate electives to develop specialization in the areas of elementary physical education, secondary/college physical education, movement sciences, athletic care and training, health or administration, and supervision. (This leads to certification

as either a principal or supervisor.)

The Master of Science degree in physical education assumes the applicant holds state certification; however, a student who plans to enter the teaching profession may obtain certification in health and physical education (K-12) while pursuing a graduate degree in physical education.

| | <i>Credits</i> |
|---|----------------|
| Foundations Core | 9 |
| Human development, learning, cultural, historical, and philosophical courses | 6 |
| PHE 602 Development of Research Techniques .. | 3 |
| Program Core | 9 |
| PHE 600 Seminar in Motor Learning Performance | 3 |
| PHE 601 Movement Physiology | 3 |
| EDU 681 Investigations and Trends in Teaching .. | 3 |
| Concentrations | 6 |
| Elementary: | |
| PHE 612 Administration and Supervision of Physical Education | 3 |
| PHE 500 Motor Development of Young Children. | 3 |
| Secondary: | |
| PHE 611 Mechanical Analysis of Human Motion . | 3 |
| EDU 599 Administration and Supervision of Physical Education | 3 |
| Movement Sciences—exercise physiology: | |
| PHE 610 Exercise Physiology: Instrumentation and Techniques | 3 |
| PHE 611 Mechanical Analysis of Human Motion . | 3 |
| Movement Sciences—motor learning: | 3 |
| (Two courses selected from approximately 10 offerings) | |
| Administration and Supervision: | |
| (Joint 36-credit program with the Department of Educational Leadership and Personnel Development leading to Virginia certification as a principal or supervisor) | |
| Athletic Care and Training: | |
| PHE 521 Athletic Care and Training | 3 |
| PHE 621 Sports Medicine | 3 |
| Health: | |
| HEN 500 Teaching Health in the Public Schools .. | 3 |
| EDU 594 Topics in Health Education | 3 |
| Study and Electives | 9 |
| EDU 641 Directed Independent Study | 3 |
| EDU 701 Thesis | 6 |
| Elective #1 | 3 |
| Elective #2 | 3 |

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Division of Teacher Education

FACULTY

Professors: McLeod; Zaret
 Emerita Professors: Fleming; McCartha
 Associate Professors: Baker; Boraks; Busby; Duncan
 (Chairman); Fulton; Hodges; Lohr; Oehler; Pieper;
 Rezba; Swyers; Tarter; Van deWalle
 Assistant Professors: Brittain; Davis; Goggin; Gross;
 Hodges; Reed; Richardson

The Division of Teacher Education offers graduate work leading to four degree programs: M.Ed. in elementary education; M.Ed. in mathematics education; M.Ed. in reading; and M.A. in English/English education. In some programs students may meet both degree and certification requirements by completing the approved graduate program sequence with additional graduate or undergraduate work, as planned with a program advisor.

M.Ed. in Elementary Education

The M.Ed. in elementary education offers four areas of concentration: curriculum and instruction, early childhood education, mathematics education, and teaching in content areas. In some instances, students completing the appropriate approved program may be recommended for certification as early childhood teacher NK-3 or elementary teacher 4-7.

Curriculum and Instruction Concentration

The curriculum and instruction concentration is designed for the generalist in elementary education, typically the master teacher seeking to extend and enrich professional skills. Students participate in a sequenced program of courses and related field activities.

M.ED. IN ELEMENTARY EDUCATION

| Concentration in Curriculum and Instruction | <i>Credits</i> |
|--|----------------|
| Phase I. | |
| Foundations | 9 |
| Program Core | 6 |
| EDU 615 Curriculum Development | 3 |
| EDU 617 Instructional Models | 3 |
| Phase II. Courses and Field Experiences | 15-18 |
| EDU 613 Educational Change | 3 |
| EDU 618 Curriculum Construction | 3 |
| EDU 600 Organizing for Effective Classroom Instruction | 3 |
| EDU 672 Internship (1-6 credits of supervised field experience related to one or more courses in Phase II) | 1-6 |
| Select one: | |
| EDU 620 Designing Modular Instructional Packages | |
| or | |
| Any advanced level content course in <i>VCU Graduate Bulletin</i> with approval of advisor | 3 |
| Phase III Integration | 6 |
| EDU 621 Curriculum Seminar | 3 |
| EDU 700 Externship | 3 |

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Early Childhood Education Concentration

The early childhood concentration is designed for classroom teachers, educational supervisors, and child care professionals who work with young children in a variety of living and learning settings. It offers graduate students the opportunity to expand and refine competencies in these areas:

1. Developmental and learning processes of young children.
2. Settings and curricula for early childhood education.
3. Social and cultural contexts of education for young children.

M.ED. IN ELEMENTARY EDUCATION

| Concentration in Early Childhood Education | Credits |
|---|---------|
| Phase I. | |
| Foundations. | 9 |
| Program Core. | 6 |
| EDU 615 Curriculum Development. | 3 |
| EDU 617 Instructional Models. | 3 |
| Phase II. Courses and Field Experiences. | 18 |
| The Child (choose two). | 6 |
| EDU 565 Young Children with Special Needs. | 3 |
| EEL 620 Creative and Cognitive Development in Young Children. | 3 |
| EEL 621 Child Study and Assessment in Early Childhood. | 3 |
| Early Childhood Curricula and Programs. | 9 |
| EEL 622 Programs in Early Childhood Education Select two: | 3 |
| EEL 623 Implementing and Administering Programs for Young Children. | 3 |
| EEL 624 Young Child and the Curriculum. | 3 |
| or | |
| Any advanced level content course in VCU Graduate Bulletin with approval of advisor | |
| Social Context of Early Childhood Education (choose one). | 3 |
| EEL 625 Cross Cultural Perspectives in Child Rearing and Early Education. | 3 |
| EEL 626 Teachers and Parents: Partners in Early Childhood Education. | 3 |
| Phase III. Integration. | 6 |
| EDU 621 Curriculum Seminar. | 3 |
| EDU 700 Externship. | 3 |
| | 39 |

Mathematics Education Concentration

The mathematics education concentration is intended for experienced teachers in elementary and middle schools who wish to expand competencies in the teaching of mathematics. Courses and field experiences expose students to recent trends and research implications, uses of new materials and technology, and diagnostic and remedial teaching strategies. Workshop and intern-

ship experiences augment formal course instruction.

M.ED. IN ELEMENTARY EDUCATION

| Concentration in Mathematics Education | Credits |
|---|---------|
| Phase I. | 15 |
| Foundations. | 9 |
| Program Core. | 6 |
| EDU 615 Curriculum Development. | 3 |
| EDU 617 Instructional Models. | 3 |
| Phase II. Courses and Field Experiences. | 12 |
| EEL 611 Mathematics Education in the Elementary School. | 3 |
| EDU 569 Diagnosis and Remediation in Mathematics. | 3 |
| EDU 500 Workshop in Education. | 3 |
| Choose one: | |
| EDU 681 Investigations and Trends in Teaching. | 3 |
| EDU 641 Independent Study (approved by core faculty). | 3 |
| EDU/MAT 554 Application of Computers in the Teaching of Mathematics. | 3 |
| Phase III. Integration. | 9 |
| EDU 621 Curriculum Seminar. | 3 |
| EDU 700 Externship. | 6 |
| | 36 |

Content Teaching Concentration

The content teaching concentration permits students to develop competencies in several disciplines. Knowledge and skills acquired in each area are integrated with field experiences permitting application of new concepts and methods. Students develop a field-related portfolio which provides a culminating product for materials developed as an outgrowth of program activities.

Students seeking initial teaching certification, NK-3 or 4-7, may satisfy some of their requirements through this concentration. Additional course work may be needed for collegiate professional certification.

M.ED. IN ELEMENTARY EDUCATION

| Concentration in Teaching in Content Areas | Credits |
|--|---------|
| Phase I. | 15 |
| Foundations. | 9 |
| Program Core. | 6 |
| EDU 615 Curriculum Development. | 3 |
| EDU 617 Instructional Models. | 3 |
| Phase II. Courses and Field Experience (choose at least one course each from three of the four content areas (9-15 credits)) | |
| Language Arts/Reading: | |
| EDU 525 Language Arts in Elementary School | 3 |
| EDU 526 The Teaching of Reading. | 3 |
| REA 603 Seminar in Dynamics of Reading Readiness. | 3 |
| REA 604 Reading Instruction in the Content Areas. | 3 |

Mathematics:

| | |
|--|---|
| EDU 522 Teaching Elementary School Mathematics | 3 |
| EDU 569 Diagnosis and Remediation in Mathematics | 3 |
| EEL 611 Mathematics Education in the Elementary School | 3 |

Science:

| | |
|---|---|
| EDU 517 Teaching Elementary School Science | 3 |
| EDU 518 Curriculum Planning in Elementary Science | 3 |

Social Studies:

| | |
|--|---|
| EDU 591 Teaching Social Studies in the Elementary School | 3 |
| EEL 610 Theory and Practice in Social Studies | 3 |

With approval of the advisor, choose two additional courses from above listing or from the courses below (0-6 credits):

| | |
|--|---|
| EDU 529 Movement Education | 3 |
| EDU 507 Educational Media: Utilization | 3 |
| EDU 528 Children's Literature II | 3 |
| EDU 531 Creative Teaching in the Elementary School | 3 |
| EDU 578 Creative Rhythmic Movement | 3 |
| EDU 604 Urban Education | 3 |
| EDU 609 Learning Strategies for the Classroom | 3 |
| EDU 648 Preparation of Instructional Materials | 3 |
| EDU 662 Educational Measurement and Evaluation | 3 |
| EDU 681 Investigation and Trends in Education | 3 |
| EDU 618 Curriculum Construction | 3 |
| EDU 620 Designing Modular Instructional Packages | 3 |

Other graduate courses emphasizing the improvement of teaching may be selected with the approval of the advisor.

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|--------------------------------------|----------|
| Phase III. Integration | 6 |
| EDU 621 Curriculum Seminar | 3 |
| EDU 700 Externship | 3 |
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M.A. IN ENGLISH/ENGLISH EDUCATION

For information on the master's degree in English/English Education see Interdisciplinary and Cooperatively Offered Graduate Degrees.

M.ED. IN MATHEMATICS EDUCATION

The mathematics education degree program is offered in conjunction with the Department of Mathematical Sciences in the School of Arts and Sciences. Students may enroll who are, or wish to become, middle school, secondary school, or community college teachers of mathematics.

The program provides experienced second-

ary school teachers of mathematics opportunities to extend their mathematical and teaching skills. It also affords those persons who have completed a baccalaureate degree in mathematics an opportunity to pursue professional education studies. The program allows for extended study in the areas of mathematics, statistics, computer science, and professional education.

Program requirements differ for each student, since they are determined by the student's educational background and future aspirations. A *sample* degree program for a student in mathematics education is listed below.

SAMPLE M.ED. PROGRAM IN MATHEMATICS EDUCATION

| | <i>Credits</i> |
|--|----------------|
| Foundations Core | 9 |
| Program Core | 18 |
| MAT 507-508 Analysis I and II | 6 |
| MAT 511 Applied Linear Algebra | 3 |
| MAT 521 Number Theory | 3 |
| EDU 681 Investigation and Trends in Teaching | 3 |
| Electives | 6 |
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M.ED. IN READING

A cooperative arrangement has been established with Virginia State University to permit selected, qualified students to complete the M.Ed. in Reading. Up to 12 semester hours from an approved list may be transferred from the cooperating institution. Interested students should contact the Division of Teacher Education.

The Master of Education in reading is designed to provide prospective reading specialists with a program of sequential and integrated experiences in areas of the reading curriculum ranging from pre-school to adult levels. Students will gain an understanding of the developmental and diagnostic processes involved in teaching reading and will become familiar with the resource and supervisory functions which are part of the specialist role. The M.Ed. in reading is an approved certification program (K-12) for students who meet Virginia State Department of Education requirements.

M.ED. PROGRAM IN READING

| | <i>Credits</i> |
|--|----------------|
| Foundations Core. | 9 |
| Program Core (18 semester hours minimum) | 18 |
| REA/EDU 526 Teaching of Reading. | 3 |
| EDU 600 Analysis and Correction of Classroom Reading Problems (Prerequisite, REA/EDU 526 or EDU 549) | 3 |
| EDU 672 Internship in Reading. (REA 600 and EDU 672 must be taken concurrently) | 3 |
| EDU 700 Externship in Reading (Prerequisite EDU 526, 549, 672, or REA 600) | 3 |
| Elect from: | |
| EDU 525 Language Arts in the Elementary School. | 3 |
| EDU 549 Developmental Reading in the Secondary School. | 3 |
| REA/EDU 566 Remedial Reading. | 3 |
| REA 601 Psycholinguistics and the Language Arts Curriculum. | 3 |
| REA 602 Teaching Adults to Read. | 3 |
| REA 603 Seminar in the Dynamics of Reading Readiness. | 3 |
| REA 604 Reading Instruction in the Content Areas. | 3 |
| EDU 606 Review of Research. | 3 |
| Complete undergraduate or graduate level study in each of the following areas (one course in each area): | |
| Measurement and Evaluation | |
| EDU 568 Psycho-Educational Diagnosis. | 3 |
| EDU 662 Educational Measurement and Evaluation. | 3 |
| Child or Adolescent Psychology | |
| EDU 602 Adolescent Growth and Development .. | 3 |
| EDU 603 Seminar in Child Growth and Development. | 3 |
| Psychology of Personality, Cognition, or Learning (exclusive of psychology and human development requirements at the collegiate professional endorsement level.) | |
| EDU 506 Psychology in the Classroom. | 3 |
| EDU 609 Learning Strategies for the Classroom. | 3 |
| PSY 509 Psychology of Personality. | 3 |
| PSY 603 Seminar in Social Psychology. | 3 |
| PSY 507 Abnormal Psychology. | 3 |
| PSY 607 Advanced Educational Psychology. | 3 |
| PSY 528 Mental Hygiene. | 3 |
| Child/Adolescent Literature | |
| EDU 528 Children's Literature II. | 3 |
| EDU 533 Adolescent Literature. | 3 |
| General Electives. | 6 |

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GRADUATE COURSES IN EDUCATION (EDU)

500 Workshop in Education. Semester course; 1-3 credit hours repeatable to 6 credit hours. Designed to focus on a single topic within a curriculum area, the workshop offers graduate students exposure to new information strategies and materials in the context of a flexible instructional framework. Activities emphasize a "hands-

on" approach with direct application to the educational setting.

502 Introduction to Guidance. Semester course; 3 lecture hours. 3 credits. An introductory course for all students in counselor education. The course is designed for both elementary and secondary counselors and is a prerequisite to all other courses offered by the department of counselor education. It includes a survey of pupil personnel services and places special emphasis on those services associated with the guidance program.

503 Guidance for Exceptional Children. Semester course; 3 lecture hours. 3 credits. An introduction to guidance strategies for assisting exceptional children. Special attention is given to the interrelationships of home, school, and community resources.

504 Film as a Teaching Resource. Semester course; 3 lecture hours. 3 credits. Exploring the film as a teaching resource. The course is designed to familiarize the students with thought-provoking films. Over 50 films will be presented. Especially helpful for the English teacher will be the exploration of the relationship between film and fiction. The humanities teacher will find a repertory of films on topics relating to historical and social questions useful.

507 Survey of Educational Media. Semester course; 3 lecture hours. 3 credits. An introduction to the role of educational media and technology in the instructional process. Emphasis is on the systematic approach to teaching and the selection, evaluation, and utilization of media. Basic production skills and equipment operation and utilization will be developed within a framework of designing appropriate learning activities.

509 TV in the Classroom. Semester course; 3 lecture hours. 3-6 credits. Video taped teaching-learning materials for specified learner outcomes will be designed and produced. Educational broadcasting and the use of commercial broadcast programs will be examined.

514 Parent Child Relations. Semester course; 3 lecture hours. 3 credits. A methods course in parent-child communications and problem solving. Designed to enable parents and professionals to understand and relate more effectively with children.

522 Mathematics Education in the Elementary School. Semester course; 3 lecture hours. 3 credits. A course designed to renew and/or expand classroom teacher's knowledge and skills in the teaching of mathematics. New materials and methodologies will be examined in the light of current trends, research findings and professional recommendations.

525 Language Arts in Elementary School. Semester course; 3 lecture hours. 3 credits. Teaching techniques and materials for the developmental teaching of communication skills. Students will explore significant research and current literature related to content, organization, and instruction in language arts for the elementary school.

528 Children's Literature II. Semester course; 3 lecture hours. 3 credits. A survey of classic and current children's books, reference resources, journals, and media. An exploration of the creative utilization of

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literature resources for children from nursery to grade seven. Includes a focus on meeting related needs of children with special problems.

529 Movement Education. Semester course; 3 lecture hours. 3 credits. For teachers of early childhood and elementary education. Emphasis given to the role of movement in the educational program, and movement theory and its applications for curriculum and learning. Major consideration will be given to motor development in young children and its implications for positive self-concepts.

531 Creative Teaching in the Elementary School. Semester course; 3 lecture hours. 3 credits. Designed for early childhood and elementary teachers and administrators. Diversified experiences drawn from various curriculum areas, including the arts. Focus on the creative process and the role of the teacher in fostering creativity.

534 Photography in Instruction. Semester course; 3 lecture hours. 3 credits. Skills with cameras, films, papers, and other photographic equipment and materials. The use of these materials as tools for teaching and the skills for preparation of instructional resources will be discussed and practiced.

535 Problems of Social Studies Instruction. Semester course; 3-6 credits. Prerequisite: permission of instructor and appropriate teaching experience. An in-depth investigation into the nature of and alternatives to problems encountered by students while teaching. Developing and evaluating instructional alternatives will be stressed.

538 Orientation to Speech and Language Disorders. Semester course; 3 lecture hours. 3 credits. An introduction to the history, scope, and trends in the field of speech pathology to include terminology, systems of classifications, and concepts of etiology, diagnosis, and therapy.

543 Teaching High School Foreign Language. Semester course; 3 lecture hours. 3 credits. To provide insight into effective secondary school foreign language instruction and to afford opportunities to the participants to upgrade their foreign language skills in listening comprehension and speaking. Attention will be given to materials, methods, and techniques. Time will be available to observe an experienced teacher using the methods and techniques taught.

544 The Middle School Curriculum. Semester course; 3 lecture hours. 3 credits. Prerequisites: EDU 300 and 301 or PSY 301 or 302, or permission of instructor. The course will focus upon an inquiry into the curriculum decision-making process as it relates to the education of pre- and early adolescents in the middle school.

546 Competency Based Vocational-Technical Education. Semester course; 3 lecture hours. 3 credits. A study of the principles and characteristics of competency-based vocational-technical education as related to vocational subject area catalogs developed by the Vocational-Technical Education Consortium of States (V-TECS). General topics include performance objectives, criterion-referenced measures, prerequisite skills, and module development.

549 Development Reading in the Secondary School. Semester course; 3 lecture hours. 3 credits. For prospective and practicing secondary school teachers. The course explores theoretical concepts in learning and reading, and the translation of these concepts into specific teaching procedures for students in the secondary school.

550 Foreign Language Performance and Program Evaluation. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Assessing student's listening, speaking, reading, and writing skills and knowledge of culture. Evaluating the effectiveness of the school's foreign language programs and instruction.

551 Introduction to Special Education. Semester course; 3 lecture hours. 3 credits. Initial graduate offering for special education majors. Includes review and discussion of all handicapping conditions. Analysis of major issues in special education such as least restrictive environment, labeling, nondiscriminatory testing, and impact of legislation and court cases on the field.

552/ENG 552 Teaching English as a Foreign Language. Semester course; 3 lecture hours. 3 credits. To provide students who plan to teach English to people whose native language is not English with the techniques used in teaching foreign languages. Contrastive analysis of morphology, phonology, and syntax is used to isolate areas of difficulty in learning English.

554/MAT 554 Applications of Computers in the Teaching of Mathematics. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: college calculus course or permission of instructor. Introduction to computers and programming using the language, BASIC. Applications of the computer in algebra, geometry, trigonometry, statistics, and calculus.

555 Geography in Social Studies Curriculum. Semester course; 3 lecture hours. 3 credits. A survey of geographic concepts and processes as a basis for examining curricular projects for and developing instructional approaches to geography as part of the social studies curriculum.

560 Teaching the Disadvantaged. Semester course; 3 lecture hours. 3 credits. Exploration of the nature and needs of disadvantaged children with emphasis on implication for teaching.

561 Reading Foundations: Sociological/Psychological Perspectives. Semester course; 3 lecture hours. 3 credits. The purpose of this course is to provide a basic understanding of the theories, processes, and methodologies of reading instruction. Multidisciplinary, multi-cultural aspects of reading instruction are stressed. Topics of particular importance to the classroom teacher are emphasized.

564 Teaching the Gifted. Semester course; 3 lecture hours. 3 credits. Curriculum development and organization of activities for the gifted at different maturational levels with specific attention given to program content, materials, resources, and guidance.

565 Young Children with Special Needs. Semester course; 3 lecture hours. 3 credits. An overview of the nature and needs of young children with special needs,

the rationale for early intervention, and available resources. This is a course for teachers and personnel in health professions and other related fields.

566 Remedial Reading. Semester course; 3 lecture hours. 3 credits. A study of reading efficiency. The course includes diagnosis of reading difficulties of all age groups, administration and interpretation of individual reading diagnostic tests, and organization of reading instruction for individuals or small groups.

568 Psycho-Educational Diagnosis of Children. Semester course; 3 lecture hours. 3 credits. An examination of standardized tests and informal techniques and their application in educational settings. Skills needed for administration, interpretation, and application of such techniques in the development and understanding of individualized educational programs (IEPs) are developed.

569 Diagnosis and Remediation in Mathematics. Semester course; 3 lecture hours. 3 credits. For classroom and resource teachers working with children whose arithmetic achievement is significantly lower than grade-level placement or expectancy level; designed to attack learning problems in arithmetic at the child's level and to aid teachers in the sequential development of skills and concepts.

571 Education of Self. Semester Course; 3 lecture hours. 3 credits. An exploration in a group setting of personal concerns of identity, relationship, and power. Participants are assisted in identifying their concerns, discovering their patterns of emotional and behavioral responses, examining the consequences of these patterns, and generating and "trying on" alternative behaviors, thus examining awareness of strategies for learning about self and others. The course provides preparatory training for small group leadership and/or teaching, utilizing humanistic education constructs, techniques, and procedures.

573 Introduction to Learning Disabilities. Semester course; 3 lecture hours. 3 credits. An overview of the learning disabled student within the educational setting through readings, discussion, simulations, and guided field experiences. Recommended for teachers and other personnel who seek the understanding and skills to cope with learning problems in their own setting. Not for program majors or endorsement.

575 Cross-Cultural Communications. Semester course; 3 lecture hours. 3 credits. An experimentally-oriented seminar for persons preparing for or in careers demanding close working relations with numbers of differing cultural-ethnic backgrounds, primarily white/black. Supported by out-of-class readings and exercises, the seminar will focus on attitudes, opinions, and self-perceptions operative within the seminar and on relating these to race relations' problems and change strategies within the larger society.

578 Creative Rhythmic Movement. Semester course; 3 lecture hours. 3 credits. A study of the importance and place of movement and music in a school program, and the uses of these media in teaching. Emphasis will be placed upon music as an accompaniment for movement and movement as an accompaniment for music. Attention will be given to analysis, improvisation, and creativity.

594 Topical Seminar. Semester course; 1-3 variable credits, repeatable up to 6 credits. A seminar intended for group study by students interested in examining topics, issues, or problems related to teaching and learning.

595 Reference and Bibliography. Semester course; 3 lecture hours. 3 credits. A study and evaluation of basic reference books and other bibliographical material most frequently used to answer reference questions in a library, including applications of computer technology.

596 Library Organization and Administration. Semester course; 3 lecture hours. 3 credits. A study of fundamental methods, routines, and procedures in the acquisition, preparation, and circulation of books and other materials for libraries. Special emphasis is on the school library.

597 Cataloging and Classification. Semester course; 3 lecture hours. 3 credits. A basic course in cataloging and classifying library materials. Practice is given in using classification systems, subject headings, filing rules, and the use and adaptation of printed cards and cataloging aids.

599 Administration and Supervision of Physical Education. Semester course; 3 lecture hours. 3 credits. Guides for administrative and supervision policies and problems in physical education. Observation techniques, standards for judging instruction, the supervisory conference, cooperative supervision. Emphasis placed upon the common problems met by administrators and supervisors.

600 Organizing for Effective Classroom Instruction. Semester course; 3 lecture hours. 3 credits. Designed to assist teachers in becoming effective classroom organizers. Emphasis on the theory and application of instructional planning, behavior control, classroom environment, instructional materials, and teaching models. (For elementary and secondary teachers.)

601 Philosophy of Education. Semester course; 3 lecture hours. 3 credits. A study of basic philosophies which have contributed to the present-day educational system. Attention will be given to contemporary philosophies having an impact on planning for future programs.

602 Adolescent Growth and Development. Semester course; 3 lecture hours. 3 credits. Contemporary learning theories and their implications for teaching the adolescent learner. Emphasis will be placed on specific problems of adolescent growth and development as they relate to the learning situation.

603 Seminar in Child Growth and Development. Semester course; 3 lecture hours. 3 credits. Intensive study of child growth and development and application of this knowledge. Emphasis on current research.

604 Urban Education. Semester course; 3 lecture hours. 3 credits. A study of urban environment and its influences on urban learners. Includes investigations of urban schools and other significant urban educational institutions and settings; problems and prospects for urban educational development and the practical and theoretical bases for appropriate program development.

605 Psychology in the Schools. Semester course; 3 lecture hours. 3 credits. To provide knowledge and ap-

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plication of psychological principles to school settings. Includes learning, development, measurement, and evaluation as related to pupil learning, teacher behavior, counselors, and other school personnel.

606 Review of Research. Semester course; 3 credits, repeatable to nine credits. Application of research findings to a specific educational area of study. Emphasis is on the consumption and utilization of research findings rather than the production of research evidence.

607 Social Foundations of Education. Semester course; 3 lecture hours. 3 credits. A study of significant social issues involved in the development and operation of schools and other educational institutions and processes.

608 History of Western Education. Semester course; 3 lecture hours. 3 credits. This course will explore the development of educational thought and practice from ancient times to the present, with special attention being given to the major issues confronting American education since its beginning.

609 Learning Strategies for the Classroom. Semester course; 3 lecture hours. 3 credits. A study of learning strategies used in classrooms including examination of concepts and issues related to the teaching-learning process. Materials and curriculum will be discussed in so far as they relate to principles of learning.

612 Education and the World's Future. Semester course; 3 lecture hours. 3 credits. An examination of education as it relates to future changes in other areas: population, energy, transportation, family, etc. The course will consist of readings dealing with educational change as well as a series of modules where students will engage in futures exercises, games, and projects.

613 Educational Change. Semester course; 3 lecture hours. 3 credits. Developing the skills for planned program change through the use of systematic inquiry, systems analysis, and systems approaches through systems concepts. Provides opportunities for students to develop "mini (classroom) changes" or "macro (school district) changes" through the use of systems.

614 Contemporary Educational Thought. Semester course; 3 lecture hours. 3 credits. This course will be devoted to a critical examination of educational ideas and programs emanating from contemporary writings on education. Students will be encouraged to develop critical skills of analysis in examining such writings utilizing historical and philosophical perspectives.

615 Curriculum Development. Semester course; 3 lecture hours. 3 credits. A basic graduate course in curriculum development. Curriculum decision-making is examined in relation to foundation areas, content areas and current educational trends. Various conceptions of curriculum are explored.

617 Instructional Models. Semester course; 3 lecture hours. 3 credits. An examination of instructional models with a focus on their analysis and adaptation to learning environments and school curriculum.

618 Curriculum Construction. Semester course; 3-6 lecture hours. 3-6 credits. A study of curriculum problems with special attention given to the organization and

preparation of teaching units. The course is individualized to meet student needs and nature of study.

619 Organization and Administration of Vocational-Technical Education. Semester course; 3 lecture hours. 3 credits. The analysis of administrative practices associated with the organization and administration of occupational programs at the secondary and post-secondary levels. Specific areas of study involve leadership, personnel management and evaluation, financial management, public relations, and responsibility to superordinates and subordinates.

620 Designing Modular Instructional Packages. Semester course; 3 lecture hours. 3 credits. A study of the theory underlying simulation and instructional packages. Modular instructional packages will be developed with emphasis on their proper use as an instructional strategy.

621 Curriculum Seminar. Semester course; 3 lecture hours. 3 credits. A study of curriculum theory, research, and practice for advanced students. The seminar is an opportunity for students to integrate previous course work and professional experiences in curriculum.

641 Independent Study. Semester course; 1-6 credits, repeatable to nine credits. An individual study of a specialized issue or problem in education. Determination of the amount of credit and permission of the instructor and department chairman must be procured prior to registration. Cannot be used in place of existing courses.

648 Preparation of Instructional Materials. Semester course; 3 lecture hours. 3 credits. Prerequisite: EDU 407/507 or permission of instructor. Development of materials for the classroom with an emphasis on determining medium, designing the message, producing the material, and evaluating the effect. The design of these materials will be predicated on the learning modes and instructional styles.

649 Educational Media: Theory and Practice. Semester course; 3 lecture hours. 3 credits. Prerequisite: EDU 407/507 or permission of instructor. An analysis of educational media with emphasis on the use of media in instructional design and development of teaching strategies.

650 Instructional Television. Semester course; 3 lecture hours. 3 credits. Use of instructional design and production skills to carry the development of an instructional idea to a finished product.

651 Topics in Education. Semester course; 1-3 credits, repeatable to nine credits. A course for the examination of a specialized issue, topic, readings, or problem in education. Check with department for specific prerequisites.

659 History and Philosophy of Vocational-Technical Education. Semester course; 3 lecture hours. 3 credits. An historical review of factors which influenced the development of vocational-technical education, including its social, economic, and philosophical foundations. An analysis will be made of certain world-of-work assumptions as well as significant legislation which have given direction and focus to vocational education in the United States.

660 Research Methods in Education. Semester course; 3 lecture hours. 3 credits. Designed to provide an introductory understanding of educational research and evaluation studies. Emphasizes fundamental concepts, procedures, and processes appropriate for use in basic, applied, and developmental research. Includes developing skills in critical analysis of research studies. Analyzes the assumptions, uses, and limitations of different research designs. Explores methodological and ethical issues of educational research. Students either conduct or design a study in their area of educational specialization.

661 Educational Evaluation: Models and Designs. Semester course; 3 lecture hours. 3 credits. Prerequisite: EDU 660 or permission of instructor. A comprehensive review of the major evaluation theories and models including their focus, assumptions, designs, methodologies, and audiences in educational policy-making and program development. Designed for students to gain an understanding of alternative procedures of educational evaluation, an in-depth knowledge of at least one theoretical approach to evaluation, and skills in interpretation of evaluation studies for policy and in developing an evaluation design for their area of specialization.

662 Educational Measurement and Evaluation. Semester course; 3 lecture hours. 3 credits. To provide an understanding of basic concepts of educational measurement and evaluation. Includes development, interpretation, and use of norm-referenced and criterion-referenced measures, standardized instruments, and qualitative assessments applicable to a wide variety of educational programs and settings. Students study in-depth measurement and/or evaluation procedures in their specialization. Course is a prerequisite for more advanced courses in research and evaluation.

663 Curriculum Development in Vocational-Technical Education. Semester course; 3 lecture hours. 3 credits. A study of the elements of curriculum development (objectives, learning experiences, outcomes) and staff leadership requirements needed for the identification, development, implementation, and evaluation of occupational programs. Emphasis will be given to vocational advisory committees, methods of instruction, developing competencies, and meeting labor market needs.

665 Supervision of Instruction in Vocational-Technical Education. Semester course; 3 lecture hours. 3 credits. A study of the principles of supervision and their application to occupational programs. Emphasis is given to administrative responsibilities associated with teacher selection, growth, and evaluation; the guidance and counseling program; curriculum improvement; in-service education; and educational leadership.

671 Parent/Professional Partnership. Semester course; 3 lecture hours. 3 credits. A course to provide theory and practice relevant to helping parents and other family members work with their handicapped child. This course will address the need to provide supportive counseling services, necessary community resources information, and specific training techniques for families with handicapped individuals. The legal rights of parents and their handicapped child will also be emphasized.

672 Internship. 1-6 credits, repeatable to nine credits. Designed to study and integrate theory with practice; in clinical settings component supervised by university faculty. Includes seminars, conferences, selected reading, course projects, and other activities designed and evaluated by student and supervising faculty.

674 Assessment of Young Handicapped Children. Semester course; 3 lecture hours. 3 credits. Prerequisites: EDU 551 or 565. Designed to provide experiences which will equip the student with skills, attitudes, and understandings needed for identification and effective use of appropriate assessment procedures for developing individualized educational programs and instructional plans.

675 Case and Program Management for Preschool Teachers of the Handicapped. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. A course reflecting the provisions of state and federal laws applicable to programming for handicapped children below age five and those follow-up procedures which assure a continuum of appropriate services. Addressed to the identification of administrative tasks which are unique to the preschool handicapped population and administrative practices which contribute to effective programming.

676 Instructional Programming for Preschool Handicapped Children. Semester course; 3 lecture hours. 3 credits. An examination of teaching procedures in preschool handicapped programs with specific attention given to 1) curriculum planning and development and 2) environmental planning and development for preschool handicapped. A secondary emphasis will be placed on developing the students' awareness of her/his own resources in curriculum planning.

681 Investigations and Trends in Teaching. Semester course; 3 credits, repeatable to nine credits. A course designed to familiarize teachers and prospective teachers with recent trends and developments in course content, strategies for organizing learning experiences, and in presenting course material in their classrooms. Laboratory experience may be incorporated where appropriate.

682 Curriculum Development in Science Education. Semester course; 3 lecture hours. 3 credits. A course for science teacher developed curriculum innovations which emphasize the initiation of formal and informal classroom work on current scientific trends, as well as special classwork and laboratory programs.

700 Externship. Semester course; 1-6 credits, repeatable to nine credits. Prerequisite: permission of department. Off-campus planned experiences for advanced graduate students designed to extend professional competencies; carried out in a setting, under supervision of an approved professional. Plan of work designed by extern with prior approval of the offering department. Externship activities monitored and evaluated by university faculty. State certification or equivalent may be required for some externships.

701 Thesis. Semester course; 6 credits. A research study of a topic or problem approved by the student's supervisory committee and completed in accordance with acceptable standards for thesis writing.

GRADUATE COURSES IN ADMINISTRATION (ASE)

600 Public School Administration. Semester course; 3 lecture hours. 3 credits. An overview of the theory and practice of public school administration. Emphasis will be placed on the roles of school boards, superintendents, principals, and supervisors at the elementary and secondary levels. Appropriate field-based experiences relating theory to practice.

601 Supervision of Instruction. Semester course; 3 lecture hours. 3 credits. An advanced course in modern concepts of supervision on the elementary and secondary levels. Modern theories and practices of instruction will be examined. Appropriate field-based experiences relating theory to practice will be included.

602 Seminar in Elementary School Administration. Semester course; 3 lecture hours. 3 credits. Problems and issues in elementary school leadership. Major responsibilities of the elementary school principal. Enrollment limited to specialists in administration.

603 Seminar in Secondary School Administration. Semester course; 3 lecture hours. 3 credits. Problems and issues in secondary school leadership. Major responsibilities of the secondary school principal. Enrollment limited to specialists in administration.

610 School and Community Relations. Semester course; 3 lecture hours. 3 credits. New concepts and specific techniques in school-community relations for teachers; involvement in educational planning; involvement in community planning; and an examination of evaluative projects for community use. Appropriate field-based experiences relating theory to practice will be included.

611 School Law. Semester course; 3 lecture hours. 3 credits. Legal aspects of school administration which include constitutional and statutory provisions and court decisions.

620 Evaluation of Instruction for Supervisors. Semester course; 3 lecture hours. 3 credits. Designed to develop skills and knowledge for the evaluation of instructional personnel and educational programs. Identification of appropriate criteria, procedures for collecting information, and evaluation processes for the purpose of aiding educational personnel involved in staff development including staff assignment, promotion, and tenure decisions. Introduction to program evaluation procedures, basic evaluation concepts, and processes appropriate for utilization as programs are initiated and implemented.

632 Administration and Supervision of Special Education. Semester course; 3 lecture hours. 3 credits. Practices and problems in providing school programs for handicapped and gifted children in both urban and rural communities are discussed.

640 Public School Finance. Semester course; 3 lecture hours. 3 credits. Prerequisite: graduate standing. A study of theories, policies, and expenditures of school funds. Special attention will be given to the practice of educational finance within the public school structure. The course will include such topics as the school budget, financial accounting, purchasing and supply problems, school equipment, and school insurance.

641 School Personnel Administration. Semester course; 3 lecture hours. 3 credits. A study of the personnel function in educational organizations. Designed to explore techniques and problems of staff-personnel relationships in contemporary education.

642 Organization and Administration of Guidance Services. Semester course; 3 lecture hours. 3 credits. A study of organizational principles and procedures necessary for the effective administration of guidance services. Consideration is given to procedures used in establishing guidance programs or modifying existing ones (or both), including the study of various community resources that can contribute to more effective guidance services.

643 The Community School. Semester course; 3 lecture hours. 3 credits. The development and utilization of the community school concept will be examined. Community-wide use of school facilities and the involvement of the total community in the learning process will be studied. Emphasis will be placed on the physical plant design, organizational structure, staffing, and curriculum of the community school. The utilization of the community school to implement "life-long learning" will be stressed.

GRADUATE COURSES IN ADULT EDUCATION (ADE)

600 The Adult Education Movement. Semester course; 3 lecture hours. 3 credits. The historical development of the adult education movement will be traced. Important events, laws, and personalities will be studied with emphasis on the philosophical foundations and social imperatives inherent in the concept of life-long learning. The effect of adult education history on the present will be analyzed with particular emphasis on future trends.

601 The Adult Learner. Semester course; 3 lecture hours. 3 credits. The physiological, psychological, and socio-economic characteristics of adults will be studied. Particular emphasis will be placed on the differences between socio-economic groups and the changes that occur with aging. The special characteristics of the disadvantaged and deprived will be analyzed. Relevant learning theories and their implications for adult education will be explored.

602 Instructional Strategies for Adults. Semester course; 3 lecture hours. 3 credits. Prerequisite: ADE 601. Systematic curriculum development models and specific teaching techniques that are effective with adults will be studied. Emphasis will be placed on individualizing instruction and the use of multi-media strategies. The specific concepts of media centers, learning centers, and programmed learning will be explored. Special attention will be given to techniques for the disadvantaged and undereducated.

604 Adult Education Seminar. Semester course; 3 lecture hours. 3 credits. Restricted to second semester graduate students. Current problems in adult education are identified and discussed. Each student will review and report on research that is related to the problems identified. Emphasis will be on the synthesis and application of skills and knowledge gained in current and prior graduate courses.

610 The Community College, Its History and Development. Semester course; 3 lecture hours. 3 credits. Educational philosophy and its implementation will be reviewed to find the relationship and justification for the establishment of two year institutions of higher education. Particular emphasis will be placed on the evolution of the comprehensive community college.

611 The Community College Student. Semester course; 3 credits. A study of the community college student as a developing individual and as a learner. Assessment and evaluation of the special problems of the community college student and the institutional opportunities for humanizing instruction and student services will be emphasized.

612 Community College Organization and Administration. Semester course; 3 credits. Organizational patterns, administrative theories, and practices as applied to community college education.

613 Community College Instructional Staff Development and Supervision. Semester course; 3 credits. Study and evaluation of faculty supervision and professional growth needs. Emphasis is placed upon the identification and analysis of the duties, responsibilities, and factors involved in the supervision of instructional programs and on designing staff development activities at the community college level.

615 Legal and Fiscal Aspects of Community College Education. Semester course; 3 lecture hours. 3 credits. The legal framework of community college education. Federal, state, and local statutory and constitutional provisions bearing on administrative relationships with faculty and students. Funding sources, policies, and procedures.

620 Human Resource Development. Semester course; 3 lecture hours. 3 credits. General investigation and overview of the training function in educational, business, industrial, governmental, and voluntary organization. An overview of the history and literature of HRD; roles of the HRD practitioner; the relationship of training to organizational effectiveness; and the various special settings of HRD.

621 Skills Development for Human Resource Development. Semester course; 3 lecture hours. 3 credits. This course is designed to develop a variety of the special skills that the HRD practitioner may expect to employ as a trainer. Skills training will be provided for small group leadership, management, career development, and other areas of current interest.

622 Human Resource Development Program Design. Semester course; 3 lecture hours. 3 credits. This course builds on the student's knowledge of adult learning strategies and emphasizes the special factors which are peculiar to designing, conducting, and evaluating training programs in organizations. Particular attention will be given to job analysis, special populations in organizations, preparation of training documents, and measuring the cost-effectiveness of training results.

630 Education and Aging. Semester course; 3 lecture hours. 3 credits. A study of the educational implications of the aging process on the design, development delivery, and evaluation of programs for older adults. Educational characteristics of adults during later

maturity (55 and older) and various types of programs available will be examined.

GRADUATE COURSES IN COUNSELOR EDUCATION (COE)

601 Theories of Counseling. Semester course; 3 lecture hours. 3 credits. The theories upon which counseling is based will be presented, with particular attention placed on the research underlying the theories. The primary focus will be on providing students with a theoretical foundation upon which to base their counseling techniques.

602 Practicum: Techniques of Counseling. Semester course; 3 lecture hours. 3 credits. Prerequisites: EDU 502 and COE 601 or permission of instructor. A study and application of a variety of counseling techniques employed in the counseling relationship. Emphasis will be placed on counseling skill development.

603 Group Procedures in Counseling. Semester course; 3 lecture hours. 3 credits. Introduction to the group process, group counseling, and group guidance contrasted and defined; basically theoretical.

604 Practicum: Group Procedures in Counseling. Semester course; 3 lecture hours. 3 credits. Utilization of small-group interaction as a vehicle to explore techniques and procedures common to human relations study. Focus on the teaching of interpersonal effectiveness, behavior objective identification, and developing of experiences relevant to leadership, communication skills, decision making, and development in effective or humanistic education.

605 Career Information and Exploration. Semester course; 3 lecture hours. 3 credits. Designed to provide the potential counselor with an understanding of theoretical approaches to career development grades K-adult. Emphasis will be given to the relationship between counselor and student(s) in the career exploration and decision-making process. A review of occupational, educational, and personal-social information resources will be made.

606 Assessment Techniques for Counselors. Semester course; 3 lecture hours. 3 credits. An examination of individual and group tests will be made. Particular attention will be given to tests of intelligence, aptitude, achievement, interest, and personality. Emphasis will be placed on the importance of careful selection, appropriate administration, skilled interpretation, and effective use of assessment instruments used by counselors.

610 Guidance in the Elementary School. Semester course; 3 lecture hours. 3 credits. An examination of basic counseling and guidance approaches for working with children. Emphasis will be given the development role of the elementary school counselor. Specific methods for individual counseling, group counseling, and classroom guidance will be discussed and practiced.

611 Guidance in the Middle School. Semester course; 3 lecture hours. 3 credits. Prerequisites: EDU 502 and COE 601. An intensive study of the guidance and counseling programs and strategies that best meet the needs of adolescents. The course is both theoretical and

practical, with students expected to spend 15 hours on site in a middle school guidance office.

620 Student Personnel Services in Higher Education. Semester course; 3 lecture hours. 3 credits. Prerequisites: COE 601 and ASE 642. A course which focuses attention on administration decision making and problem solving in the area of student personnel services. Emphasizes the case study approach; students will participate in various administrative experiments requiring the employment of administrative theory and practice.

621 Guidance Seminar. Semester course; 3 lecture hours. 3 credits. Prerequisite: open to advanced students with permission of instructor. An advanced course designed to provide a means for intensive study of guidance services. The approach will be to integrate the knowledge and skills from the various disciplines as they relate to the work of the counselor.

GRADUATE COURSES IN ELEMENTARY EDUCATION (EEL)

610 Critical Investigations in Social Studies Education. Semester course; 3 lecture hours. 3 credits. Prerequisite: EDU 491 or permission of instructor. Assuming a knowledge of basic content and techniques in the teaching of social studies in elementary and middle schools, this course conducts a critical examination of various curriculums and methodologies from the standpoint of current research, philosophical positions, and relevant learning theory.

611 Critical Investigations in Mathematics Education. Semester course; 3 lecture hours. 3 credits. Prerequisite: EDU 422/522 or permission of instructor. A critical investigation of current and appropriate learning theories, instructional activities, programs, and manipulative materials applicable to mathematics education in the elementary school. This course assumes an overall knowledge of the more prominent techniques and materials used to teach mathematics in elementary and middle schools. Students will undertake in-depth critical studies of alternative curricula, materials, and strategies based on experience, learning theory, and research findings.

620 Creative and Cognitive Development in Young Children. Semester course; 3 lecture hours. 3 credits. Prerequisites: graduate standing; completion of Phase I of proposed M.Ed. in elementary education, concentration in early childhood education. Edu 603 prerequisite. Application of theories of creative and cognitive development in the teaching of young children.

621 Child Study and Assessment in Early Childhood Education. Semester course; 3 credits. Prerequisites: completion of Phase I of proposed M.Ed. in elementary education, concentration in early childhood education. Investigation and application of methods of observing, recording, and interpreting the behavior of young children. Review of criterion and norm-referenced measures for assessing capacities and needs in early childhood education . . . as a baseline for prescribing/providing appropriate activities.

622 Programs in Early Childhood Education. Semester course; 3 lecture hours. 3 credits. Prerequisites: graduate standing; completion of Phase I of proposed

M.Ed. in elementary education, concentration in early childhood education. Review of historical seeds of early childhood education programs. Analysis of current prototypes, center and home-based, for infants and young children as a basis of program development and evaluation. Visits to model programs, whenever possible. Overview of current research on programs in early childhood education. Required of all students in the early childhood education option.

623 Implementing and Administering Programs for Young Children. Semester course; 3 lecture hours. 3 credits. Prerequisite: EEL 622. This course is designed to provide the student with fundamental knowledge and skills in the implementation, supervision, and administration of educational programs in schools, centers, and homes for infants and young children. A problems approach will be utilized with emphasis on creative management and evaluative processes.

624 Young Child and the Curriculum. Semester course; 3 lecture hours. 3 credits. Prerequisites: graduate standing; completion of Phase I of proposed M.Ed. in elementary education, concentration in early childhood education. Translation of curriculum development principles into appropriate curricular programs for young children. Impact of recent research on these curricula. Consideration of child development as related to planned activities and expected outcomes.

625 Cross Cultural Perspectives in Child Rearing and Early Education. Semester course; 3 lecture hours. 3 credits. Prerequisites: graduate classification; completion of Phase I and II of the proposed M.Ed. in elementary education concentration in early childhood education. Analysis of the impact of linguistic patterns, child rearing techniques, and socialization processes on the education of young children in various cultural settings.

626 Teachers and Parents: Partners in Early Childhood Education. 3 lecture hours. 3 credits. Prerequisites: graduate standing; completion of Phase I of proposed M.Ed. in early childhood education. A focus on the impact of parents in the education of young children and the role of the early childhood specialist working "in partnership" with these parents. Overview of research and prototype programs. Field based projects.

GRADUATE COURSES IN EMOTIONALLY DISABLED (EMO)

600 Characteristics of the Behavior Disordered. Semester course; 3 lecture hours. 3 credits. This course focuses on the nature of children and youth described as behavior disordered/emotionally disturbed with emphasis on the biophysical, sociological, and psychological factors which relate to their educational needs. Related topics include school identification and assessment procedures, classifications of disorders, and treatment approaches.

601 Teaching the Behavior Disordered. Semester course; 3 lecture hours. 3 credits. Prerequisite: EMO 600. The course provides an in-depth study of instructional strategies and organization of activities for behavior disordered/emotionally disturbed children and youth including curriculum, media, materials, and physical environment. Skills are developed to plan and

deliver instruction in a variety of educational settings including resource rooms, self-contained classes, and residential programs.

602 Classroom Management of the Behavior Disordered. Semester course; 3 lecture hours. 3 credits. An in-depth analysis of strategies and techniques used in the management of behavior disordered/emotionally disturbed children and youth. Individual and group management of the behavior disordered in elementary through secondary educational settings will be discussed. Open only to advanced graduate students in the area of behavior disorders or with permission of instructor.

603 Human Interaction in Teaching. Semester course; 3 lecture hours. 3 credits. The course focuses on interpersonal relationships and communications between teachers, students, parents, and administrators. Communication and consultation skills are developed through role playing and simulations. Affective and personality variables in teacher-student interactions are explored.

GRADUATE COURSES IN ENGLISH/ENGLISH EDUCATION (ENE)

601 Young Adult Literature. Semester course; 3 lecture hours. 3 credits. An extended examination of literature written for young adults, of literature appealing to adolescents, of literature appropriate for young people in middle schools and high schools. The course focuses on the content, characteristics, and teaching of such literature.

603 Teaching English to Minority Groups. Semester course; 3 lecture hours. 3 credits. A study of the problems confronted when teaching English to students from minority groups, with attention given to the importance of non-standard dialects and of preserving cultural uniqueness. Some emphasis will be placed on the student for whom English is a second language.

632 Applied English Linguistics. Semester course; 3 lecture hours. 3 credits. Application of linguistic theories and methods to selected teaching problems, such as teaching English grammar and usage, teaching English as a second or foreign language, or teaching standard English to students who speak different dialects. May be repeated for credit.

634-635 Seminar and Internship in the Community College. Continuous course; 2 lecture and 4 laboratory hours. 3-8 credits. Observation and practice of instructional techniques in English courses in the community college on all levels from developmental studies through college transfer courses, culminating in the student's acceptance of full responsibility for teaching a composition or reading course under the general supervision of a community college division chairman.

636 Teaching of Communication. Semester course; 3 lecture hours. 3 credits. A study of traditional and modern instructional strategies for teaching various forms of communication but with primary emphasis on the teaching of composition and secondary emphasis on reading and speech. The validity of strategies will be tested in the student's own writing.

637 Mass Media and the Teaching of English. Semester course; 3 lecture hours. 3 credits. A study of the use of the mass media in the English classroom. Emphasis will be on teaching methods designed to take advantage of the student's awareness of the media. Special attention will be given to television and film.

643 Teaching Basic Writing Skills. Semester course; 3 lecture hours. 3 credits. The emphasis of this course will be on developing the student's ability to teach fundamental writing skills. It will include such topics as diagnosis of writing problems, strategies for correcting problems, and methods for evaluating progress.

GRADUATE COURSES IN HEALTH EDUCATION (HED)

500 Teaching Health in the Public Schools. Semester course; 3 lecture hours. 3 credits. This course provides instruction for those currently teaching elementary and secondary school health and brings them in contact with recent developments in the field.

505 Adolescent Medical and Social Problems. Semester course; 3 lecture hours. 3 credits. Seminar designed to acquaint those individuals working with an age group from 12 to 21 of the normal physiological and psychological development and medical and adjustment problems. This material will be presented by a series of lectures and case presentations with group participation. Topics will include drug abuse, under-achievers, sex education, emotional problems, constructive challenges for the adolescent, education for the adolescent, and the effect of these problems on families of the adolescent.

510 Sex Education for Teachers. Semester course; 3 lecture hours. 3 credits. Principles, methods, and content of sex education programs. Designed for teachers and counselors who are concerned with helping children and adolescents understand their sexuality and prepare for successful personal relationships with people.

GRADUATE COURSES IN LEARNING DISABILITIES (LDS)

600 Characteristics of the Learning Disabled. Semester course; 3 lecture hours. 3 credits. The nature and needs of the learning disabled with emphasis upon psychological and behavioral characteristics as related to educational needs.

601 Methods of Clinical Teaching. Semester course; 3 lecture hours. 3 credits. Prerequisites: EDU 468, 568, and LDS 600. Specific methodologies for teaching children with identified precognitive and cognitive learning disabilities using developmental, remedial, and compensatory approaches.

611 Teaching the Learning Disabled Adolescent. Semester course; 3 lecture hours. 3 credits. Prerequisite: LDS 600 and 601 or permission of instructor. An advanced course in identifying, diagnosing, and remediating academic learning problems in the adolescent. Explores the organization, selection, and implementation of compensatory programs and methods under the impact of cognitive, motivational, curricular, social, and vocational factors.

620 Advanced Educational Diagnosis of Developmental Processes. Semester course; 3 lecture hours. 3 credits. Prerequisite: EDU 568 or permission of instructor. An advanced course in the assessment and diagnosis of educationally relevant developmental processes in exceptional students, including perception, cognition, language, and socialization. Develops skill in utilization and interpretation of educational purposes. Must be taken concurrently with Clinical Experience.

621 Advanced Educational Diagnosis of Learning Problems. Semester course; 3 lecture hours. 3 credits. Prerequisite: EDU 568 or permission of instructor. An advanced course in the assessment and diagnosis of educationally relevant learning skills in exceptional students, including language arts, mathematics, behavioral, vocational, and related skills. Develops skills in utilization and interpretation for educational purposes. Must be taken concurrently with Clinical Experience.

630 Techniques of Remediating Specific Language Disabilities. Semester course; 3 lecture hours. 3 credits. Prerequisites: REA 566 and EDU 568. Advanced course in techniques for the remediation of specific language disabilities with emphasis on reading problems. Includes interpretation of diagnostic reports and the presentation and evaluation of a variety of specific remedial methodologies.

631 Aural Rehabilitation. Semester course; 3 lecture hours. 3 credits. A detailed review in techniques for teaching lip reading and auditory training for the hearing-impaired child.

GRADUATE COURSES IN MENTALLY RETARDED (MRT)

556 Introduction to Mental Retardation. Semester course; 3 lecture hours. 3 credits. Initial graduate offering for special education majors concentrating in mental retardation. Includes review and discussion of all ages, functioning, and levels of the mentally retarded. Analysis of major issues in mental retardation such as deinstitutionalization, need for community services, sterilization, client advocacy, and new advances in treatment and prevention.

600 Language Development in the Severely Handicapped. Semester course; 3 credits. Prerequisite: permission of instructor. An intensive study of the developmental sequence of language acquisition and strategies for language intervention with the severe and profoundly mentally retarded and other severely handicapped children.

601 Curriculum Design for the Mentally Retarded. Semester course; 3 credits. Prerequisites: EDU 461/561 and 467/567. An examination of issues and strategies required in selecting and developing curriculum for the mentally retarded. Emphasis on four components: the content and behavior from resources used in teaching particular topics, the instructional design and procedures, and ways of managing instruction for the mentally retarded.

610 Teaching Strategies for the Severely Handicapped. Semester course; 3 lecture hours. 3 credits. This course is designed to provide instruction in teaching methods

for individuals with severe behavior, learning, or emotional handicaps. Emphasis will be placed on instructional program development, task analysis, and methods of precision teaching.

611 Vocational and Occupational Adjustment for Exceptional Children. Semester course; 3 lecture hours. 3 credits. An orientation to occupations, occupational information, and problems of adjustment for the handicapped with emphasis on the mentally handicapped. Emphasis is also placed upon implications of vocational and occupational adjustment problems for curriculum. Selected visitations to employing agencies are an integral part of the course.

GRADUATE COURSES IN PHYSICAL EDUCATION (PHE)

500 Motor Development of Young Children. Semester course; 3 lecture hours. 3 credits. This course will deal with the development of small children, pre-school, kindergarten, and first-grade children, through physical education. Emphasis will be on the construction of a program of motor development for each of these three groups. The programs will be based on the research findings in such areas as perceptual-motor development, motor learning, educational psychology, and others. Those students and teachers in the fields of physical education, special education, and elementary education should find this course useful in developing programs of motor development for their students.

514 Physical Education for Special Populations. Semester course; 3 lecture hours. 3 credits. No prerequisites. This course is designed to provide fundamental information to students at the graduate level on physical education programming of impaired, disabled, and handicapped children. Course content focuses on programming techniques and methods that are most effective in meeting the specific physical education needs of the individual child. Emphasis is on the Public Law 94-142 provisions currently affecting physical education programming for special populations; in particular, the development of specially designed physical education programs on individualized education programs and providing programming in the "least restrictive environment."

521 Athletic Care and Training. Semester course; 3 lecture hours. 3 credits. The course is designed to give the student insight and understanding into the basic principles in the care and prevention of athletic injuries. Course content includes emergency first aid techniques, mechanisms of athletic injuries with an anatomical and kinesiological analysis of common injuries, and preventive and protective techniques.

600 Seminar in Motor Learning Performance. Semester course; 3 lecture hours. 3 credits. Analysis of early patterns of behavior and the development of physical skills in childhood, adolescence, and adulthood. Consideration of differences in motor proficiency and factors affecting the acquisition of motor skills and concepts of motor learning with reference to the improvement of instructional practices.

601 Movement Physiology. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Physiological pro-

cesses in relation to bodily exercises in every day life and sports activities. Physiological changes in the human organism due to movement. Investigation and application of research to physical education. Students must design, conduct, and complete a research study.

602 Development of Research Techniques in Physical Education. Semester course; 3 lecture hours. 3 credits. Theory and techniques involved in the analysis and interpretation of data pertinent to research in physical education. Basic statistics applied to data encountered in physical education research. Student must design, conduct, and write a pilot study.

610 Exercise Physiology: Instrumentation and Techniques. Semester course; 1 lecture and 4 laboratory hours. 3 credits. Designed to integrate practical and theoretical aspects of exercise physiology; experiences will benefit the physical educator, the coach, the athletic trainer, and the physiologist. Units include setting up and operating a movement physiology laboratory and techniques of open-circuit spirometry, closed-circuit spirometry, blood chemistry, and anthropometrics.

611 Mechanical Analysis of Human Motion. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Anatomical relationships dealing with arthrology, myology, neurology, and physical principles as applied to mechanical and kinesiological interpretation of normal, abnormal, and growth and development functions. Students must design, conduct, and complete a research study.

612 Administration and Supervision of Physical Education. Semester course; 3 lecture hours. 3 credits. Guides for administrative and supervision policies and problems in physical education. Observation techniques, standards for judging instruction, the supervisory conference, cooperative supervision. Emphasis placed upon the common problems met by administrators and supervisors.

613 General Motor Ability Evaluation. Semester course; 2 lecture and 2 laboratory hours. 3 credits. The theory of the construction of evaluative instruments in physical education with emphasis on a critical examination of existing measurement devices. Emphasis on the use of measurement as a tool for improving physical education programs.

614 Motor Assessment for Special Populations. Semester course; 3 lecture hours. 3 credits. Prerequisites: PHE 514 or permission of instructor. This course is designed to provide the student with basic information regarding motor tests and observational instruments that assess and evaluate special populations. The content of the course will focus on the analysis of these tests as to their 1) main components and items purporting to measure these components; 2) administration, i.e. time, administrator's experience, group size, validity and reliability, and standardization; and 3) use in establishing and monitoring annual goals and short-term objectives for a handicapped child's individualized education program.

621 Sports Medicine. Semester course; 3 lecture hours. 3 credits. Prerequisite: PHE 521 or permission of instructor. The course is designed to give the student knowledge in the advanced principles of prevention and

treatment of athletic injuries. The course includes advanced first aid techniques and the more sophisticated means of athletic care and prevention. The student is exposed to such modalities as mechanical therapies, thermal therapy, cryotherapy, hydrotherapy, and electrotherapy. One major component of the course deals with therapeutic exercise and its use in the rehabilitation of the injured athlete.

GRADUATE COURSES IN READING (REA)

600 Analysis and Correction of Reading Problems. Semester course; 3 lecture hours. 3 credits. Prerequisite: EDU 561 or 549. An analysis of factors relating to reading disability. Diagnostic testing procedures and instructional strategies appropriate for the reading specialist in clinical and classroom settings will be emphasized. Must be taken concurrently with EDU 672.

601 Psycholinguistics and Language Arts Curriculum. Semester course; 3 lecture hours. 3 credits. An investigation of the psychological processes involved in language behavior and the relationship of these processes to the teaching of the basic communication skills.

602 Teaching Reading to Adults. Semester course; 3 lecture hours. 3 credits. An examination of strategies appropriate for teaching adult readers functioning at levels ranging from beginning to college level. Basic reading concepts, skills, and adult reading methods and materials are analyzed. Focus is on adapting teaching techniques for use with adults in various organizational patterns.

603 Seminar in Dynamics of Reading Readiness. Semester course; 3 lecture hours. 3 credits. Intensive study of the emotional, social, intellectual, and physical factors involved in development of pre-reading and beginning reading skills. Emphasis on current research and teaching methodology.

604 Reading Instruction in the Content Areas. Semester course; 3 lecture hours. 3 credits. Emphasis of the course is on preparing teachers to apply skills and methods of reading instruction to content areas in elementary and secondary school curricula. The course will include theoretical bases and methodology for incorporating reading skills within content areas of instruction.

GRADUATE COURSES IN VOCATIONAL TECHNICAL EDUCATION (Distributive Education) (DIE)

500 Techniques of Coordination in Distributive Education. Semester course; 3 lecture hours. 3 credits. Developing cooperative relationship with resources in the community, selecting and developing training stations, placement of students, and assisting job adjustment.

501 Distributive Education Adult Programs. Semester course; 3 lecture hours. 3 credits. The place of continuing education in the total responsibilities of the teacher-coordinator; planning, organizing, promoting, administering, and evaluating the adult program; selection

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and training of adult instructors. Basic course for teacher-coordinators.

600 Improvement of Instruction in Distributive Education. Semester course; 3 lecture hours. 3 credits. Prerequisite: DIE 405 or equivalent experience. Curriculum adaptation, use of appropriate methods, application to secondary school, and adult programs.

601 Materials and Methods in Project Instruction. Semester course; 3 lecture hours. 3 credits. Development of specific related vocational curriculum materials for non-cooperative distributive education classes at the secondary level.

602 Career Education Concepts. Semester course; 3 lecture hours. 3 credits. Designed to familiarize students with curriculum methods and procedures necessary to implement career education. Emphasis on roles of

school personnel and community agencies in career education programs.

603 Supervisory Leadership in Distributive Education. Semester course; 3 lecture hours. 3 credits. The role of the supervisor in distributive education; principles of creative supervision; organization for observation, guidance, and training of teacher-coordinators.

604 World of Work Seminars. 1-3 lecture hours. Variable credit per seminar, maximum nine credits. Repeatable field seminar designed to familiarize school personnel with current information necessary to assist students in making appropriate and enlightened career choices. Developed in cooperation with business, industry, military, and other facets of our economy to explore career options, includes classroom as well as field experiences.



PART IX—School of Nursing

ADMINISTRATIVE OFFICERS

Doris B. Yingling, R.N., B.S., M.A., Ed.D.
Dean

Katherine C. Bobbitt, R.N., B.S., M.S.
Assistant Dean, Undergraduate Program

Eleanor C. Repp, R.N., B.S., M.S.N., Ed.D.
Assistant Dean, Graduate Program

Shirley T. Downs, B.S., M.Ed.

Assistant Dean for Management and Student Affairs
Jewell Calderone, B.S.N., M.S.

Director, Continuing Education

HISTORY

The School of Nursing originated in 1893 as part of the University College of Medicine. Since then, the educational program has evolved from a basic diploma program to multiple programs at the baccalaureate and master's degree levels. In addition, three nurse practitioner programs, an active research program, continuing education opportunities, and a cooperative outreach program in graduate education with the University of Virginia School of Nursing have been developed.

The School of Nursing takes pride in its long history of service to the profession of nursing and its record of accomplishments. Through high standards of quality education and performance in the practice of nursing, the School of Nursing continues to be a leader in nursing education in Virginia.

PHILOSOPHY

The graduate program is based on the philosophy and is committed to the goals of the School of Nursing and the university. Differentiation between the undergraduate and graduate programs is reflected in the philosophy and purpose of graduate education, the characteristics of graduates, and the program objectives.

The School of Nursing believes that graduate education is professionally-oriented and is built upon general and professional baccalaureate study in which nursing is included in upper division offerings.

Graduate education in nursing focuses on the integration of three processes: transmission, utilization, and development of knowledge. Through advanced study in a specialized role of the student's choice, emphasis is placed on a synthesis of theory and process which is utilized in professional nursing. The graduate program is designed to develop the scholarship and leadership potential of those involved. Advanced study emphasizes analysis and synthesis of knowledge from diverse areas of learning combined with systematic investigation of the concepts underlying nursing and leadership roles in changing environments and complex health care systems.

The program's purpose is to prepare nurses to develop and implement nursing

practice in a specialized area through assumption of a primary role as clinical specialist, teacher, supervisor, nurse practitioner, or administrator.

GRADUATE PROGRAMS IN THE SCHOOL OF NURSING

The School of Nursing offers programs of study leading to the Master of Science degree. Major study in a clinical area may be combined with a minor in a functional area or psychiatric mental health nursing, or with preparation as a nurse practitioner. Opportunities for study as a nurse practitioner are contingent upon available funding for these courses.

Programs combining major study in a clinical area with a minor area:

| Major | Minor | Approximate Length |
|-----------------------------------|---|--|
| Community Health Nursing | Teaching Supervision | 3 Sem I SS 3 Sem I SS |
| Maternal and Infant Nursing | Teaching Clinical Specialization Psych-Mental Health | 3 Sem I SS 3 Sem I SS 3 Sem I SS 3 Sem I SS |
| Medical-Surgical Nursing | Teaching Clinical Specialization Psych-Mental Health | 3 Sem I SS 3 Sem I SS 3 Sem I SS 3 Sem I SS |
| Nursing of Children | Teaching Clinical Specialization Psych-Mental Health | 3 Sem I SS 3 Sem I SS 3 Sem I SS 3 Sem I SS |
| Psychiatric-Mental Health Nursing | Teaching Clinical Specialization | 4 Sem 4 Sem 4 Sem |

Programs combining major study in a clinical area with preparation as a nurse practitioner are:

| Major | Nurse Practitioner | Approximate Length |
|-----------------------------|------------------------------|--------------------|
| Community Health Nursing | Family Nurse Practitioner | 4 Sem I SS |
| Maternal and Infant Nursing | OB/GYN Practitioner | 4 Sem I SS |
| Nursing of Children | Pediatric Nurse Practitioner | 4 Sem I SS |

Continuation of the Nurse Practitioner areas

of study is contingent upon the availability of fiscal resources.

| Major | Minor | Approximate Length |
|---------------------------------|---|--------------------|
| Nursing Services Administration | Medical Surgical Nursing Maternal Infant Nursing Psych-Mental Health Nursing Nursing of Children Community Health Nursing | 4 Sem I SS |

ADMISSION REQUIREMENTS AND PROCEDURES

The purpose of admission requirements and procedures is to encourage applications from competent students and to insure selection of those whose ability, education, and motivation qualify them to pursue successfully graduate study in nursing.

To be considered for admission applicants must have:

1. A Bachelor of Science in nursing or a program equivalent to MCV/VCU School of Nursing with an upper division major in nursing from an NLN accredited school.
2. Acceptable scores on the Graduate Record Examination (Scholastic Aptitude Test only).
3. Current license to practice as a registered nurse. For enrollment in the program students must have licensure in Virginia and professional liability insurance.
4. References from the applicant's undergraduate program in nursing and from employment.
5. A personal interview may be requested.

Preference will be given to applicants with a minimum of one year of practice within the past five years.

Foreign applicants who do not use English as their natural language must have a minimum TOEFL score of 550.

Admission to study as a nurse practitioner in the graduate program requires, in addition, a minimum of one year of practice in a related area and a personal interview.

Preference will be given to applicants from an area in need of primary health care and/or who have a commitment from a

physician to provide a preceptorship or employment.

Admission to the major in nursing services administration requires, in addition, experience in nursing practice and management including mid-level responsibility for personnel management, program planning, and budget, such as is usually contained in positions of head nurse and supervisor. A personal interview is expected.

Applications and catalogues can be obtained from and should be submitted to the dean, School of Graduate Studies, Virginia Commonwealth University, Box 568, MCV Station, Richmond, VA 23298.

Additional program information and advisement can be obtained through the assistant dean for the graduate program, School of Nursing, Box 638, MCV Station, Richmond, VA 23298.

Applicants should submit the following to the dean, School of Graduate studies:

Application for admission

Transcripts from all post secondary school academic study

References

Statement of personal development and goals

GRE scores

Applications are reviewed and acted upon by the School of Nursing. Applicants will be notified of action by the dean, School of Graduate Studies, Office of Research and Graduate Affairs. Applicants who are granted any provisional admission are responsible for satisfying the provision or may be subject to dismissal. Applicants should accept an admission offer in writing and submit a tuition deposit of \$50 to the director of graduate affairs. The tuition deposit is not refundable but will be applied to tuition during the first semester of enrollment in courses. Applications not completed by June 1 for the fall semester and November 1 for the spring semester may not be processed in time for registration. The applicant whose application arrives late may be considered for enrollment as a special student, but there is no assurance that the student will be accepted into a degree program.

SPECIAL STUDENTS

Students who are not applicants for the degree may be admitted to individual

courses. Permission to register for courses is at the discretion of the School of Nursing.

REGISTRATION

Students may begin study during fall, spring, or summer sessions. Students are advised, particularly if beginning in spring or summer, to discuss with their advisor the availability of sequential courses. Students who do not register for consecutive fall and spring sessions once admitted must notify in writing the assistant dean for graduate program, School of Nursing.

SCHOLARSHIPS, GRANTS, LOANS

Applications for financial assistance must be filed for all forms of financial assistance, including traineeships. These applications may be obtained from the Financial Aid Office, Virginia Commonwealth University, Box 244, MCV Station, Richmond, VA 23298.

Limited financial assistance is available through traineeships administered by the School of Nursing. A copy of the application for financial assistance should be filed as follows:

Professional Nurse Traineeships — Dr. Eleanor C. Repp, Assistant Dean for Graduate Program

Psychiatric Mental Health Nursing — Dr. Patricia Wiley, Chairman, Department Psych-Mental Health Nursing

Maternal and Child Nursing — Dr. Margaret Spaulding — Chairman, Department of Maternal-Child Nursing

Kellogg Foundation Grant in Nursing Administration — Dr. Eleanor Repp

GRADUATION REQUIREMENTS

To be a candidate for the degree of Master of Science in nursing, the student must be recommended by the faculty and must:

1. Complete all requirements for the prescribed curriculum within five calendar years of the first registration for work to be credited toward the degree.
2. Earn at least a "B" grade in all nursing courses.
3. Earn at least a cumulative average of

3.0 in all work presented for graduation.

4. Present a satisfactory defense of the thesis at oral examination at least two weeks before the commencement exercises at which the student expects to receive the degree.
5. Submit five or more copies of the thesis prepared according to the standards approved by the University Graduate Council.

The degree will be granted only after all requirements have been fulfilled, all fees to the university have been paid, and bound copies of the thesis have been submitted. Degrees are not granted in absentia unless written request is made to the assistant dean for graduate program and permission is granted.

ACADEMIC REQUIREMENTS

1. All full-time graduate students are expected to register for a minimum of 12 semester hours credit per semester, including research.
2. Utilizing the university grading system, no student may proceed in the program with a GPA less than 3.0 or with a grade of less than "B" in any nursing course without the approval of the assistant dean for the graduate program.
3. An advisor for each student is appointed by the appropriate department chairman. That advisor will assist the student in program planning and registration procedures.
4. Each student will select, with the approval of the department chairman, a thesis committee comprised of no less than three university faculty. One member must be outside the major department and may be outside of the School of Nursing.
5. The thesis committee will monitor the design and conduct of the research, the preparation of the thesis, and serve as moderators in examination of the thesis.
6. The thesis is examined by the student's thesis committee and the additional moderator appointed from the faculty of VCU.
7. Each moderator shall receive a copy of the candidate's thesis and shall decide

on its acceptability. The moderators may confer with each other before making their decision.

8. On approval of the thesis, the student appears for a final oral examination by the thesis moderators. The final examination shall be open to the faculty, and its time and place together with the candidate's name, department, and title shall be announced at least 10 days in advance.
9. A favorable vote of the examining committee with no more than one negative vote shall be required to pass the oral examination. All moderators will attend and will cast a vote.

MASTER OF SCIENCE DEGREE Program Requirement — Clinical Major

Major:

NUR 575 Contemporary Nursing 3 credits
Advanced Clinical Courses 12-14 credits
Support Courses — one or two courses with from 5-7
credits related to the clinical major.

Minor:

Nursing Practicum 5 credits
Support Courses 9 credits

Research:

NUR 611 — Methods of Research 3 credits
NUR 612 — Research Seminar 1 credits
NUR 630 — Thesis 6 credits

Undergraduate statistics is required prior to admission or statistics must be completed for thesis study. Specific advanced clinical courses and support courses will be determined by the major department. Requirements for nurse practitioner study will be found in the program descriptions for community health nursing and maternal-child nursing. Requirements for the nursing administration program will be found in the section describing that program.

TRANSFER CREDIT

The student may arrange to take 12 of the required credits at another institution and transfer these to VCU. It is imperative to obtain approval for such courses before enrolling in them. Acceptance toward degree requirements of credits earned prior to admission is at the discretion of the School of Nursing and will not exceed 12 credits.

MASTER OF SCIENCE DEGREE PROGRAMS

Community Health Nursing

The major in community health nursing is organized to include theoretical knowledge about the physical, behavioral, and sociocultural factors that influence human behavior in health and illness. The advanced clinical content in nursing includes opportunities to apply theories and modalities of treatment in family nursing and in meeting health needs of populations and defined community groups. Emphasis is on the identification and practice of innovative roles in nursing within the context of a changing health care system. Related courses in other fields basic to the specialty are selected for their contribution to the major. Students may select a sequence of courses in disciplines related to an area of special interest within the broad scope of community health nursing and develop this area in their clinical practice and research. Graduate study in education, administration, and family nurse practice is shared with graduate students from fields other than nursing.

Family Nurse Practitioner

Students enrolled in the family nurse practitioner major will complete the following courses in addition to the requirements for the community health nursing major: NUR 502, 503, 504, 505, and graduate physiology. Students who select the family nurse practitioner program are eligible to apply for certification by the Virginia Boards of Nursing and Medicine.

Maternal-Child Nursing

The majors in maternal and infant nursing and nursing of children provide an eclectic approach to the study of childbearing, childrearing, and the growth years of the life cycle. Emphasis is on the family as a socializing unit in which each member interacts with and affects every other member in their achievement of developmental tasks and responses to situational crises. The nurse's role in assessing, monitoring, maintaining, and promoting healthy adaptation in resolving these crises is stressed.

In order to achieve an effective level of nursing intervention in a variety of settings,

the program is organized to include theoretical knowledge in physical, behavioral, and sociocultural factors that influence human responses along the health-illness continuum. Emphasis is placed also in increased self-understanding and skillful synthesis of theory in clinical practice areas and research.

Obstetric-Gynecologic or Pediatric Nurse Practitioner

Students enrolled in the nurse practitioner major will complete the following courses in addition to the requirements for the MCN major. Obstetric-gynecologic nurse practitioner: NUR 534, 535, 536; pediatric nurse practitioner: NUR 544, 545, 546, and graduate physiology.

Medical-Surgical Nursing

MCV Hospitals' patients are drawn from both urban and rural areas of Virginia. The complexity of their illnesses provides a wealth of experiences for the student of medical-surgical nursing. Opportunity to move out into the community, as well as study within the hospital complex, offers the student breadth as well as depth of preparation.

The focus of the graduate program in medical-surgical nursing is on both physiological and psychosocial problems. The advanced nursing courses concentrate on a variety of health-illness situations which individuals experience. Students select their own learning situations and have the opportunity to engage in independent study in each advanced course.

Students electing the teaching option have the opportunity to participate with undergraduate faculty in planning, organizing, implementing, and evaluating undergraduate student experiences. Actual practice in classroom and clinical laboratory teaching is provided under guidance. A microteaching session affords opportunity for student self-evaluation and improvement.

Students electing clinical specialization may select a focus from among the subspecialties in medical-surgical nursing for in-depth study and concentrated clinical practice. Practicing clinical specialists from

MCV Hospitals are available for consultation which affords the student the option to work in concert with those in actual practice.

Psychiatric-Mental Health Nursing

The student achieves a measure of expertise toward meeting both professional and personal goals through a program of education which is individually planned. Practice in clinical settings is selected on the basis of goals. Individual supervision is appropriate to the particular clinical situations. The student has access to teams of multidisciplinary experts with whom to work in planning and implementing care for individual clients and their families and for persons and/or groups in the community. Opportunities for students to participate in seminars, conferences, and information sessions with scholars in residence are ongoing activities within the School of Nursing.

NURSING SERVICES ADMINISTRATION

This program prepares the graduate to

assume top level management positions in the area of nursing services administration. Approximately 56 credits from courses in the School of Business, School of Allied Health Professions, Department of Health Administration, and the School of Nursing and a thesis are required. The student engages in learning experiences related to the practice of administration in nursing. The focus of the course of studies is both theoretical and experiential and seeks to promote the integration of administrative and nursing sciences. Emphasis is placed upon systematic methods of investigation including the preparation and conduct of a research study. Practicums are planned individually to capitalize upon the background of the student and to promote growth.

COURSE REQUIREMENTS

The following courses are required components of programs of study leading to the Master of Science degree. Additional courses (*) will be selected from areas related to the major area of study.

COURSE SELECTION BY MAJOR AREA OF STUDY

Courses Listed are Required Courses

| | Community Health Nursing | Maternal Infant | Nursing of Children | Medical Surgical | Psychiatric- Mental Health |
|--|---|--------------------|---------------------------|---------------------|----------------------------------|
| MAJOR | | | | | |
| Core Course | NUR 575 | NUR 575 | NUR 575 | NUR 575 | NUR 575 |
| Advanced Clinical | NUR 500 | NUR 531 | NUR 531 | NUR 520 | NUR 551 |
| | NUR 501 | NUR 532 | NUR 542 | NUR 521 | NUR 552 |
| | | NUR 533 | NUR 543 | | NUR 553 |
| | | | | | NUR 555 |
| | | | | | NUR 556 |
| | | | | | NUR 557 |
| Major Support (2 courses or 5-7 credits) . . | BIS 521 | PIO 501 | PIO 501 | PIO 501 | * |
| | * | or GEN 501 | or GEN 501 | | * |
| | | * | * | | |
| Research | NUR 611 | NUR 611 | NUR 611 | NUR 611 | NUR 611 |
| | NUR 612 | NUR 612 | NUR 612 | NUR 612 | NUR 612 |
| | NUR 630 | NUR 630 | NUR 630 | NUR 630 | NUR 630 |
| MINOR | | | | | |
| Teaching Practicum | NUR 571 | NUR 571 | NUR 571 | NUR 571 | NUR 571 |
| Support Courses | Three courses from such areas as philosophy of education, learning theories, teaching strategies, curriculum, development, or evaluation. | | | | |
| <i>or</i> | | | | | |
| Clin. Spec. Pract. | NA | NUR 573 | NUR 573 | NUR 573 | NUR 573 |
| Support Courses | Three courses from such areas as organizational theory group process, teaching strategies, social organization, community planning, etc. | | | | |
| <i>or</i> | | | | | |
| Supervision Practicum | NUR 513 | NA | NA | NA | NA |
| Support Courses | Three courses from such areas as organizational theory, administrative theory, community planning, community organization. | | | | |
| Nurse Practitioner | NUR 502 | NUR 534 | NUR 544 | NA | NA |
| | NUR 503 | NUR 535 | NUR 545 | | |
| | NUR 504 | NUR 536 | NUR 546 | | |
| | NUR 505 | | | | |
| Support | PIO 501 | PIO 501 | | | PIO 501 |

Nursing Services Administration

This course of study includes courses in the School of Business; School of Allied Health Professions; Department of Health Administration; and School of Nursing. Recommended are the following:

BUS 607 See graduate bulletin for course descriptions

BUS 608

BUS 624

HAD 602

HAD 603

HAD 609

HAD 611

HAD 658

NUR 521 or other clinical sequence

NUR 575

NUR 611

NUR 612

NUR 630

NUR _____

Seminar in Nursing Services

Administration I, II, III. (Information about these courses available upon request.)

*Additional support courses will be selected from areas of study related to the major.
Nurse practitioner courses are completed in lieu of a minor area of study.

CLINICAL FACILITIES

A variety of urban and rural organizations and agencies including community, medical center, and state hospitals; public health services, private clinics and offices, federal and state centers, and departments are available for clinical study. These facilities provide generalized and specialized in-patient and ambulatory services for maternal and child health, psychiatric-mental health, medical and surgical treatment, geriatrics, and oncology. Selection of specific facilities for student experience is based upon the needs of the individual student and the services available within the facility. Students are encouraged to identify facilities which represent services within their clinical area of study.

FACULTY

Professors: Yingling (Dean); Francis (Professor of Nursing); Repp (Assistant Dean, Graduate Program); Spaulding (Chairman, Maternal-Child Nursing); Wiley (Chairman, Psychiatric-Mental Health Nursing)

Associate Professors: Crummette; Exley; Henry; Kissinger; Munjas; Olgas (Chairman, Medical-Surgical Nursing); Tyzenhouse (Chairman, Community Health Nursing).

Assistant Professor: Strauss.

GRADUATE COURSES IN NURSING (NUR)

The descriptions provided here are for the courses in the major in nursing and are restricted to students in this major. Please see other sections in this bulletin for courses in other schools and departments. Lecture hours may be used as seminar in which case the hours are doubled.

500 Advanced Community Health Nursing. 2 lecture and 8 clinical hours. 6 Credits. II. Prerequisite: NUR 575. Advanced concepts and theories basic to the study of individuals and families in the community. Advanced nursing practice in examining selected conceptual frameworks for family analysis and nursing intervention is provided through intensive work with families encountering problems on an illness-wellness continuum.

501 Advanced Community Health Nursing. 2 lecture and 8 clinical hours. 6 credits. I. Prerequisite: NUR 575, 500. Theories and concepts basic to health needs of populations and of change strategies related to community organization and action for health. Clinical practice with families and selected community health planning groups focuses on the role of the nurse as a change agent.

502 Assessment in Family Nurse Practice. 7 lecture and 12 clinical hours. 10 credits. Concurrent with graduate physiology. Focuses on development of assessment component of the family nurse practitioner role. Didactic content taught by a multidiscipline faculty covers common physical, mental, and developmental problems presented by children and adults in ambulatory settings. Supervised practice covers history taking, physical examinations, screening and diagnostic procedures, and interpretation of selected laboratory findings.

503 Clinical Judgment in Family Nurse Practice. 7 lecture and 12 clinical hours. 10 credits. II. Prerequisite: graduate physiology and NUR 502. Didactic content taught by a multidiscipline faculty continues to increase students' competency in identifying health illness status of children and adults in ambulatory settings. Supervised practice covers increasing responsibility for accuracy and breadth of assessment and clinical judgments. Practice includes experiences with family nursing where advanced theory on family dynamics, counseling, teaching, and coordination as practiced by the specialist in community health nursing are synthesized with the assessment and clinical judgment skills of the nurse practitioner.

504 Management of Common Health Problems of Children and Adults in Family Nurse Practice. 1 lecture and 20 clinical hours. 6 credits. III. Prerequisite: NUR 503. Focuses on development of management component of the family nurse practitioner role by assigning students to a physician delivering primary care. The student develops a small caseload of families to manage, to assist family units in developing positive health behavior, to evaluate responses to management plans, and to experience the degree of dependency-independency required to carry out the role functions of the family nurse practitioner. Seminars cover practice-oriented issues and experiences in role development in practice.

505 Nurse Practitioner Practicum. 1 lecture and 8 clinical hours. 3 credits. I, II. Prerequisite: NUR 500, 501, or concurrent; FNP course sequence. Concentrated study and clinical practice in an area of interest. This may be a clinical experience only or one which integrates the teaching, supervisory, or consultant component of the practitioner role.

513 Practicum in Supervision. 1 lecture and 8 clinical hours. 5 credits. I. Prerequisite: third semester standing. Philosophy, purposes, and elements of the social role of the contemporary supervisor as a developer of human resources and as a functioning member of organizational structures taught through selected supervised practice.

520 Advanced Medical-Surgical Nursing. 2 lecture and 8 clinical hours. 6 credits. I, II. Prerequisite: NUR 575, PIO 401, or equivalent. Theory and practice directed toward nursing assessment and interventions needed by clients and their families.

521 Advanced Medical-Surgical Nursing. 2 lecture and 8 clinical hours. 6 credits. I. Prerequisite: NUR 575, PIO 401, or equivalent. Theory and practice directed toward nursing interventions and resources needed by clients and their families. Factors affecting the implementation of nursing interventions will be incorporated.

212 School of Nursing

531 Maternal-Child Nursing Concepts. 2 lecture hours. 2 credits. I. Prerequisite or co-requisite: NUR 575. In-depth study of key concepts in the childbearing and childrearing years which have implications for nursing action in both maternity nursing and nursing of children. Emphasis is placed on childbearing and childrearing as a continuum within which health-oriented crisis situations occur in varying frequencies. These crisis situations have potentially disorganizing effects on the family unit. Appropriate nursing action to assist the family in reestablishing equilibrium will be covered.

532 Advanced Maternal-Infant Nursing I. 1 lecture and 8 clinical hours. 5 credits. II. Prerequisite: NUR 575 and 531. Theory and practice are directed toward concepts that the care of the mother and her newborn is a continuous integrated process, centered on the family in interaction with the physical and social environment.

533 Advanced Maternal-Infant Nursing II. 1 lecture and 8 clinical hours. 5 credits. I. Prerequisite: NUR 575 and 531. Theory and practice are directed toward study of normal and abnormal physiological and psychosocial patterns associated with intrapart and postpart periods of pregnancy. Emphasizes assessing, planning, implementing, and evaluating comprehensive nursing care.

534 Primary Health Care In OB-GYN Nursing. 10 lecture and 16 clinical hours. 12 credits. Prerequisite: NUR 575, 531, 532, graduate physiology. This course provides the student with the knowledge and skill necessary to provide primary care to women in the areas of maternity and gynecologic care.

535 Primary Health Care in OB-GYN Nursing Practicum I. 16 clinical hours. 5 credits. I. Prerequisite: NUR 534. This course is designed to provide the student with intensive clinical experience in the areas of maternity and family planning for clients in primary care.

536 Primary Health Care in OB-GYN Nursing Practicum II. 1 lecture and 16 clinical hours. 5 credits. II. Prerequisite: NUR 535. This course is designed to provide continued intensive clinical experience and an opportunity to integrate the functional role of nurse practitioners with advanced nursing theory.

542 Advanced Nursing of Children I. 1 lecture and 8 clinical hours. 5 credits. II. Prerequisite: NUR 575 and 531. An eclectic approach to the nursing care of infants, toddlers, and preschool children. The family is included as the primary socializing agent of the child. Relationships among family members and with outside support systems are analyzed. Emphasis is placed on attaining and maintaining health and preventing illness. Behaviors typically expressed during periods of stress and adaptation are included and interventions are discussed. The laboratory provides opportunities for applying the nursing process in the care of children and families.

543 Advanced Nursing of Children II. 1 lecture and 8 clinical hours. 5 credits. I. Prerequisite: NUR 575 and 531. An eclectic approach to the nursing care of children through the study of the important theories and ideas related to child development and health care needs and

the application of this information in the nursing care of school age children and adolescents.

544 Primary Health Care in Pediatric Nursing. 7 lecture and 16 clinical hours. 11 credits. II. Prerequisite: NUR 531, 575, and graduate physiology. The concept of primary care is explored with emphasis on the nurse as a provider of primary health care services for children and their families in collaboration with a physician.

545 Primary Health Care in Pediatric Nursing. 1 lecture and 24 clinical hours. 7 credits. III. Prerequisite: NUR 531. Designed to provide intensive clinical experience in the areas of health promotion and maintenance and treatment of the child with acute or chronic illness with preceptor collaboration.

546 Primary Health Care in Pediatric Nursing II. 1 lecture and 16 clinical hours. 4 credits. I. Prerequisite: NUR 545. Designed to provide further intensive clinical experience in the areas of health promotion and maintenance and treatment of the child with acute or chronic illness with preceptor collaboration.

551 Advanced Psychiatric-Mental Health Nursing. 1 lecture and 2 clinical hours. 2 credits. I. Prerequisite or corequisite: NUR 575. Focuses on interpersonal interaction based on a theory of human values in which concepts such as identity, acceptance and esteem, communication, autonomy, and authenticity are stressed. Theory related to systems analysis used to study the milieu. Content provides basis for the care of individual patients and use of the nursing process within the therapeutic community.

552 Advanced Psychiatric-Mental Health Nursing. 2 lecture and 8 clinical hours. 6 credits. II. Prerequisite: NUR 551. A continuation of the study of human values and of specific psychiatric nursing concepts such as anxiety and fear. Provides theory dealing with the study of families and family therapy. Clinical practicum provides additional depth in the care of an individual patient and his family and in the care of groups of patients. Practicum may cut across clinical and/or agency boundaries according to individual interest and needs of the student.

553 Advanced Psychiatric-Mental Health Nursing. 2 lecture and 8 clinical hours. 6 credits. I. Prerequisite: NUR 551, 552. Focuses on the synthesis of previously learned psychiatric nursing theory and material from related areas in the assessment of community dynamics and potentials as they affect the mental health of persons within the community. Focus of the clinical practicum is upon community living.

555 Group Seminar. 1 lecture hour. 1 credit. I. Series of group seminars designed to promote theoretical understanding of group dynamics and psychotherapies in terms of objectives and techniques. Opportunities provided for personal growth through sensitivity training. First seminar focuses on experiential learnings of group and self dynamics.

556 Group Seminar. 1 lecture hour. 1 credit. II. Prerequisite: consent. Designed to provide theoretical understanding of such group dynamics as process, content, pressure, and feedback.

557 Group Seminar. 1 lecture hour. 1 credit. I. Prerequisite:

uisite: consent. Devoted to objectives and techniques involved in the various group psychotherapies, including such groups as supportive, guidance, insight-oriented, encounter, marathon, sensitivity training, couples, and family therapy.

571 Teaching Practicum. 1 lecture and 8 clinical hours. 5 credits. I, II. Prerequisite: 6 credit hours education courses and 10 credit hours nursing courses. Concentrated study in classroom and clinical teaching content. Supervised practice teaching is provided with undergraduate nursing students under the direction of master teachers.

573 Selected Clinical Practicum. 1 lecture and 8 clinical hours. I. Prerequisites: methods of research, statistics, 10 credits in nursing courses. Concentrated study and clinical practicum directed toward clinical specialist preparation in the major area of interest.

575 Contemporary Nursing. 3 lecture hours, 3 credits. I, S. Prerequisite: BSN or equivalent degree. A core course designed to provide knowledge of theories, practices, and procedures common to nursing prior to specialization. All graduate students will participate in

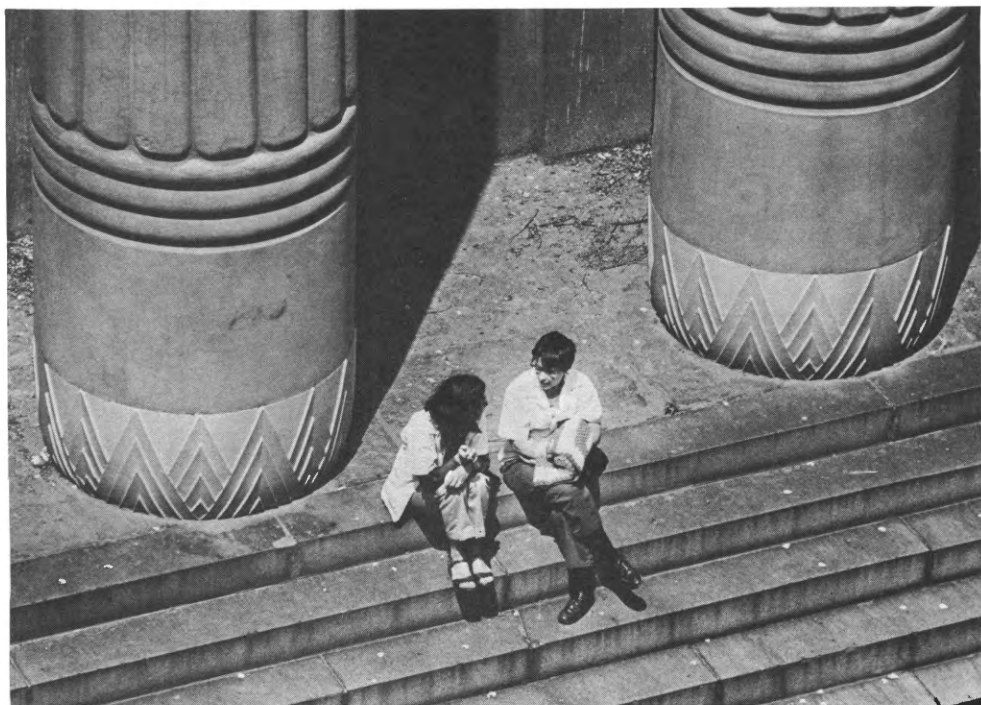
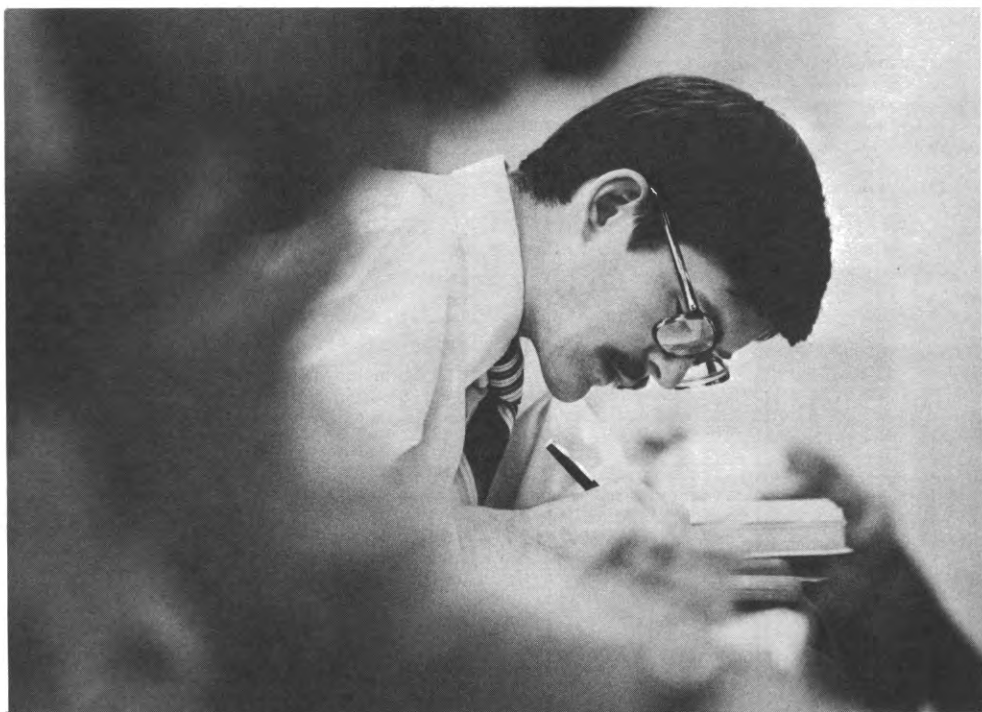
seminar course in conjunction with lectures. It is required prior to any course in the area of specialization with the exception of NUR 551 which is taught concurrently.

577 Special Topics in Nursing. 1-3 credits. I, II, S. Independent study of specific topics in nursing covered briefly in the more general courses.

611 Methods of Research. 3 lecture hours. 3 credits. Prerequisite: statistics preferred. Focus is on the methods and processes of systematic investigation; critical analysis of studies; and relationships among theory, research, and practice leading to the development of a thesis proposal.

612 Research Seminar in Nursing. 1 lecture hour. 1 credit. II. Prerequisite: NUR 611. Examines practical problems in the implementation of nursing research.

630 Thesis. 6 credits. Required of all students, the master's thesis constitutes carefully planned and executed research under the supervision of an advisor and in conjunction with a thesis committee. The student writes and presents the required thesis in the area of clinical nursing interest.



PART X—School of Pharmacy

ADMINISTRATIVE OFFICERS

WARREN E. WEAVER, B.S., Ph.D.

Dean

GRAHAM C. WINDRIDGE, Pharm.D., Ph.D.

Assistant Dean

HISTORY

When the Medical College of Virginia opened its doors on November 5, 1838, pharmacy was taught as a part of the medical course. Although the General Assembly of Virginia amended the charter in 1879 to permit the institution to confer the degree of graduate of pharmacy upon properly qualified individuals, college records indicate that there were two graduates in pharmacy as early as 1876.

The School of Pharmacy of MCV (now a division of Virginia Commonwealth University) was officially established in 1898; the University College of Medicine had a school of pharmacy when it opened in 1893. The two-year curriculum gave way to a three-year program in 1925, and in 1932 the school required four years of college work and a B.S. degree was awarded. In 1960 the program lengthened to the current five-year course leading to a Bachelor of Science in pharmacy degree. In 1975, authority was granted to offer to selected students a six-year program leading to the Doctor of Pharmacy degree.

The authority to award graduate degrees

in the pharmaceutical sciences was granted by the Graduate Council in 1952. Departments in the school currently direct work leading to the M.S. and Ph.D. degrees in pharmaceutical chemistry, pharmaceuticals, and pharmacy administration. These programs provide the preparation and research experience for academic and industrial careers.

FACILITIES

The School of Pharmacy is located in McGuire Hall on the Medical College of Virginia Campus. It shares this building with the Department of Pharmacology of the School of Basic Sciences. Location in a major health science center provides excellent opportunities for interdisciplinary research, and access to clinical facilities. Graduate students in the School of Pharmacy may take graduate courses in chemistry or computer science at the Academic Campus. The school is well equipped for graduate research.

PROGRAMS IN PHARMACEUTICAL/MEDICINAL CHEMISTRY

The Department of Pharmaceutical Chemistry offers programs leading to the M.S. and Ph.D. degrees in pharmaceutical chemistry. Students may select programs

emphasizing organic medicinal chemistry, pharmaceutical analysis, or physical pharmaceutical chemistry.

All students will complete the following core courses along with those elective courses deemed necessary to the student's program by the student's advisor.

Organic Pharmaceutical Chemistry—

PHC 403–404

Advanced Medicinal Chemistry—PHC 506 or 607

Research Techniques—PHC 526

Seminar (each semester)—PHC 590

Biochemistry—BIC 503–4

Pharmacology—PMC 403

Advanced Organic Chemistry—CHE 604

At the present time the research interests of the department include: synthesis and biological evaluation of new compounds, determination of relationships between chemical structure and biological activity, studies on modes of drug action, theoretical studies on structure-activity relationships of drugs including the use of molecular orbital theory and molecular connectivity, rational design of new drugs and studies on drug metabolism. Drug classes under investigation include antineoplastics, hypocholesteremics, hypoglycemics, hypotensives, neurotransmitter antagonists, peptide antibiotics, psychotropic agents, and urolithiasis inhibitors.

PROGRAMS IN PHARMACEUTICS AND PHARMACY ADMINISTRATION

The Department of Pharmacy and Pharmaceutics offers programs leading to the M.S. and Ph.D. degrees in pharmaceutics, and pharmacy administration. Advanced degrees in pharmaceutics and pharmacy administration do not provide eligibility for licensure as a pharmacist. Persons interested in advanced professional programs in pharmacy are referred to the School of Pharmacy section of the Medical College of Virginia Campus bulletin where the Doctor of Pharmacy (Pharm.D.) program is described.

Graduate students majoring in pharmaceutics may select programs emphasizing biopharmaceutics, pharmacokinetics, physical pharmacy, or pharmaceutical technology. Graduate students majoring in pharmacy administration may select programs emphasizing practice management or the

drug selection process. At the present time, the research interests of the department include: bioavailability studies, factors governing release of drugs from solid dosage forms, micellar nature of drug solutions, drug-protein binding interactions, effects of saturated and competitive metabolism on pharmacokinetics, clinical pharmacokinetics including computer modeling of pharmacokinetics in man and use of individual pharmacokinetic parameters in optimizing dosage regimens, development of analytical methodology for drugs in biological fluids, isolation of new drugs from natural sources, design and management of pharmacy-related health service systems, drug prescribing, and utilization studies.

ADMISSION REQUIREMENTS

The requirements for admission to graduate programs at the Medical College of Virginia Campus of Virginia Commonwealth University are described in the School of Basic Sciences section of this bulletin. Additional requirements concerning undergraduate education are imposed upon applicants to graduate programs in the School of Pharmacy.

Admission to graduate programs in pharmaceutical/medicinal chemistry is open to students having a bachelor's degree in pharmacy, chemistry, or a related science. Admission to graduate programs in pharmaceutics and pharmacy administration normally requires a bachelor's degree in pharmacy. However, applicants with degrees in chemistry, biology, or engineering may qualify in specific programs.

Acceptance is based upon undergraduate performance, satisfactory scores on the Graduate Record Examination, letters of recommendation, and, where applicable, TOEFL scores.

Applications for admission, consisting of all required documentation specified in the School of Basic Sciences section of this bulletin should be sent to the chairman, Graduate Admissions Committee, Department of Pharmaceutical Chemistry or Department of Pharmacy and Pharmaceutics, School of Pharmacy, Virginia Commonwealth University, Box 581, MCV Station, Richmond, VA 23298.

REGISTRATION

While most students register for the first semester, beginning in August, arrangements may be made to initiate graduate work at other times during the academic year.

FINANCIAL ASSISTANCE

Graduate students in the School of Pharmacy may receive support via teaching assistantships, research assistantships, or fellowships. The American Foundation for Pharmaceutical Education provides support to eligible applicants for graduate study in the pharmaceutical sciences. All students, regardless of the level or the source of support, are required, as a part of their graduate education, to obtain teaching experience in lecture and laboratory.

THE STUDENT'S ADVISOR AND GRADUATE COMMITTEE

The departmental graduate coordinator will advise the student until a permanent advisor has been chosen. During their first semester, new graduate students are required to arrange interviews with each graduate faculty member of their major department to discuss research projects. Each student will select an advisor and a research project, and report the selection to the appropriate departmental committee. The advisor will arrange for the appointment of the student's graduate committee. The responsibilities of the advisor and the graduate committee are described in the School of Basic Sciences section of this bulletin.

REQUIREMENTS FOR GRADUATE DEGREES

Graduate students in the School of Pharmacy must satisfy the degree requirements described in the School of Basic Sciences section of this bulletin (p. 104). In some cases more stringent requirements are imposed and these are described in detail in graduate student rules which are issued to all students.

All graduate students are required to attend seminars in their own department and are encouraged to attend seminars of interest in other departments. Students are required

to present seminars satisfactory to the faculty. Normally, students in pharmaceutical chemistry will present one seminar per year, while those in pharmaceuticals will present a seminar each semester.

The oral comprehensive examination for Ph.D. candidates in the School of Pharmacy is based upon an original research proposal which must be prepared by the student and distributed to the faculty in advance of the examination.

Graduate students are expected to devote maximum effort to the pursuit of their education. During normal working hours, graduate students are expected to be working on their research projects when they are not in class. Graduate students who are progressing satisfactorily may be granted permission by the chairman of their department to take outside employment during evenings or weekends.

ORGANIZATIONS

Rho Chi, the national honorary pharmaceutical society has a chapter at MCV. Membership in this society is open to graduate students in the School of Pharmacy who meet the society's scholastic standards.

The Society of Sigma Xi Chapter at VCU brings in outstanding scholars for its lecture program. Graduate students who have demonstrated a marked aptitude for research in the field of pure or applied science may be elected to associate membership in the society.

Professional associations which meet locally include the Virginia Pharmaceutical Association and the Virginia Section of the American Chemical Society.

Pharmacy fraternities with chapters at MCV are Kappa Epsilon, Kappa Psi, and Phi Delta Chi.

Department of Pharmaceutical Chemistry

FACULTY

Professors: Kier (Chairman); Richard; Smith; Stubbins
Associate Professors: Boots; Van't Riet; Windridge
Assistant Professor: Soine

GRADUATE COURSES IN PHARMACEUTICAL CHEMISTRY (PHC)

403 Organic Pharmaceutical Chemistry. 3 lecture hours. 3 credits. Prerequisite: PHC 302. A study of synthetic and natural organic compounds of medicinal and pharmaceutical interest with emphasis being placed on physical and chemical properties and on the relationships between chemical structure and pharmacological activity.

404 Organic Pharmaceutical Chemistry. 4 lecture hours. 4 credits. Prerequisite: PHC 403. A continuation of PHC 403.

506 Advanced Medicinal Chemistry I. 3 lecture hours. 3 credits. A study of pharmacodynamics, theories relating to drug action, and the general principles of drug design.

511 Physical Chemistry. 3 lecture hours. 3 credits. Co-requisite: calculus. A first course in physical chemistry with emphasis on those topics most relevant to the health sciences, including electrolyte solution theory, kinetics, and the physical chemistry of macromolecules.

512 Physical Chemistry. 3 lecture hours. 3 credits. Prerequisite: PHC 511. A continuation of PHC 511.

513 Experimental Physical Chemistry. 4 laboratory hours. 2 credits. Co-requisite: PHC 511. The laboratory work includes a number of basic experiments in physical chemistry along with techniques and procedures of special interest to students in the health sciences.

514 Experimental Physical Chemistry. 4 laboratory hours. 2 credits. Prerequisite: PHC 513. A continuation of PHC 513.

521 Drug Assaying. 2 lecture and 4 laboratory hours. 4 credits. A consideration of the chemical assaying of U.S.P. and N.F. preparations, including synthetic and naturally occurring drugs.

526 Research Techniques in Pharmaceutical Chemistry. 0-2 lecture and 2-8 laboratory hours. 1-4 credits. The theory and application of classical and instrumental techniques used in pharmaceutical research are presented.

531 Medicinal Chemistry for Nurse Anesthetists I. 4 lecture hours. 4 credits. A review of the principles of organic chemistry and bio-organic chemistry with emphasis on the chemistry of anesthetic agents and adjunct drugs.

532 Medicinal Chemistry for Nurse Anesthetists II. 3 lecture hours. 3 credits. Prerequisite: PHC 531 or equivalent. A series of lectures covering the structure-activity relationships, metabolism, mechanism of action, and clinical significance of anesthetic and related agents.

590 Pharmaceutical Chemistry Seminar. 1 lecture hour. 1 credit. In addition to reports that are presented by students, staff, and visiting lecturers, current problems and developments in pharmaceutical and medicinal chemistry are discussed.

607 Advanced Medicinal Chemistry II. 3 lecture hours. 3 credits. A study of the structure-activity relationships and mode of action of selected groups of drugs.

622 Stereochemistry. 2 lecture hours. 2 credits. A study of the number and kinds of stereoisomers of organic compounds, the differences in chemical and physical properties between stereoisomers.

632 Heterocyclic Chemistry. 3 lecture hours. 3 credits. A series of lectures covering a number of the more important heterocyclic systems.

650 Special Topics in Pharmaceutical Chemistry. 1-4 lecture hours. 1-4 credits. Lectures, tutorial studies, and/or library assignments in selected areas of advanced study not available in other courses or as a part of the research training.

681 The Ultracentrifuge. 2 lecture hours. 2 credits. The optical systems of the ultracentrifuge are discussed, as well as the applications of the ultracentrifuge in the study of the properties of macromolecules such as proteins and nucleic acids.

690 Research in Pharmaceutical Chemistry. 1-15 credits. Research leading to the M.S. or Ph. D. degree.

Other graduate courses suitable for credit towards an advanced degree are listed in the Department of Chemistry course descriptions.

Department of Pharmacy and Pharmaceutics

FACULTY

Professors: Barr (Chairman); Wood
Associate Professors: Garnett; Garrettson; Hepler;
Kline; Pierpaoli; Smith
Assistant Professor: Poynor

GRADUATE COURSES IN PHARMACY AND PHARMACEUTICS (PHA)

531 Pharmaceutical Product Development. 2 lecture and 4 laboratory hours. 4 credits. A study of the pharmaceutical, physicochemical, biopharmaceutical, and engineering principles and technology underlying the development of various pharmaceutical dosage forms for hospitals and industry.

532 Pharmaceutical Product Development. 2 lecture and 4 laboratory hours. 4 credits. A continuation of PHA 531.

590 Pharmacy Seminar. 1 lecture hour. 1 credit. Required of all graduate students in pharmacy.

601 Advanced Pharmaceutical Product Development. 3 lecture and 4-10 laboratory hours. 5-8 credits. An advanced study of the pharmaceutical, physicochemical, and engineering principles and technology underlying the development of various pharmaceutical dosage forms.

602 Advanced Pharmaceutical Product Development. 3 lecture and 4-10 laboratory hours. 5-8 credits. A continuation of PHA 601.

605 Legal Aspects of Drug Development and Evaluation. 3 lecture hours. 3 credits. A study of the requirements of the regulatory agencies in the development of a "new drug" in accordance with the IND and NDA process through all phases of laboratory and clinical testing, including pertinent statistics. The current and probable future requirements of "good manufacturing practice" will be treated.

608 Clinical Radiopharmacy. 1 lecture and 2 laboratory hours. 2 credits. Students receive training in the safe use, preparation, calibration, quality control, and clinical diagnostic use of current and investigational radiopharmaceuticals in nuclear medicine practice. Emphasis will be placed on obtaining patient medication histories for the evaluation of agents capable of *in vivo* and *in vitro* radioisotopic test modification.

611 Advanced Physical Pharmacy. 3 lecture and 0-4 laboratory hours. 3-5 credits. Detailed application of physicochemical principles to areas of pharmaceutical interest, including colloids, rheology, phase rule, complexation, kinetics, drug stability, and micromeritics.

612 Advanced Physical Pharmacy. 3 lecture hours. 0-4 laboratory hours. 3-5 credits. A continuation of PHA 611.

621 Advanced Biopharmaceutics. 2 lecture hours. 2 credits. Study at the advanced level of the relationships between the physicochemical properties of a drug and dosage form and the absorption, distribution, elimination, and pharmacological effects of the drug. Current theory and methodology involved in solving problems at the research level are emphasized.

622 Clinical Pharmacokinetics. 2 lecture and 0-2 laboratory hours. 2-3 credits. The application of current pharmacokinetic theory to clinical problems involved in optimizing and monitoring drug use in patients. Particular attention is given to adjustment of drug dosage

in individual patients with impaired drug elimination due to renal and hepatic dysfunction.

624 Pharmacokinetics. 2 lecture hours. 2 credits. An advanced treatment of the kinetics of drug absorption, distribution and elimination utilizing mathematical models, analog, and digital computers for analysis of linear and non-linear biologic systems.

625 Biopharmaceutic Assay. 2 lecture and 2-6 laboratory hours. 3-5 credits. Theory and laboratory practice for systematic quantitative and qualitative analysis of drugs and metabolites in body fluids and tissues. Emphasis is on modern analytical methodology used in pharmacokinetic and biopharmaceutic studies.

626 Biopharmaceutic Assay. 2 lecture and 6-10 laboratory hours. 5-7 credits. A continuation of PHA 625 with particular emphasis on the identification of drug metabolites.

631 Advanced Hospital Pharmacy Management. 3 lecture hours. 3 credits. Major issues and problems related to the effective management and coordination of a contemporary institutional pharmacy service program are discussed largely in the context of hospital organizational structure and dynamics. Emphasis is placed on the social, political, and economic forces impinging on the modern hospital organization and its pharmacy service programs.

632 Advanced Hospital Pharmacy Management. 3 lecture hours. 3 credits. The planning and development of a total program in institutional drug use control is stressed with emphasis on modern human and fiscal resource management theories and applications. Current management problems unique to institutional pharmacy practice are stressed.

650 Special Topics in Pharmacy. 1-4 lecture hours. 1-4 credits. Presentation of subject matter is by lectures, tutorial studies, and/or library assignments in selected areas of advanced study not available in other courses or as part of the research training.

690 Research in Pharmacy. 1-15 credits. Research leading to the M.S., Pharm.D., or Ph.D. degree.



PART XI—School of Social Work

ADMINISTRATIVE OFFICERS

ELAINE Z. ROTHENBERG

Dean

GRACE HARRIS

Associate Dean

ROBERT L. SCHNEIDER

Assistant Dean

FLORENCE SEGAL

Director of Continuing Education

HISTORY AND LOCATION

The School of Social Work was established in 1917 as the Richmond School of Social Work and Public Health, which later became the first unit of Richmond Professional Institute. The school developed initially in response to community manpower needs to work with World War I veterans and their social and health problems. Subsequent development of the school has expanded into all areas of human service.

With the creation of Virginia Commonwealth University in 1968, the School of Social Work was established as a unit of the university's Academic Campus, located in a residential section of central Richmond. The Raleigh Building at 1001 West Franklin Street houses faculty offices, a student lounge, and the Stuart J. Gluck Memorial Reading Room. The School of Social Work is the oldest school of its kind in the South.

Richmond provides a unique setting for social work education. The population of the metropolitan area is approximately

600,000 persons. As a community, Richmond is in a period of exciting economic and social growth, permitting varied opportunities for community study and field instruction. As the capital of Virginia, Richmond offers educational opportunities in many state government agencies concerned with the development and provision of social services. Proximity to Washington, D.C., allows additional field placements with either federal agencies or with national organizations. The existence of a large number of social agencies in the area permits students to participate in the delivery and development of a wide range of social services.

PROFESSION OF SOCIAL WORK

Social work is a profession that assists people in the prevention and resolution of problems of human living. It provides services to those who seek more satisfying and productive lives, and helps communities to organize services to contribute to the welfare of all citizens. In addition to these traditional concerns, social workers are increasingly involved in the administration of direct human service programs, in the development of public policy, in research programs, and in teaching. Due to the expansion of social welfare programs in recent years, qualified social workers are in demand in every area of professional practice.

In order to achieve the profession's goals of human well-being and social justice, social workers provide a variety of services in many different organizations. Social work is usually practiced in social welfare agencies and in social work departments at host settings. Social workers are needed to work with mentally ill, emotionally disturbed, delinquent, mentally retarded, physically ill, handicapped, and economically and socially deprived children and adults. They are sought for service in schools, courts, hospitals, clinics, and in agencies that seek to detect and prevent delinquency and child neglect.

Community centers, psychiatric and general hospitals, and service centers for the aged also seek qualified social workers and offer varied career opportunities. Equally challenging opportunities exist in public and private agencies that deal with problems of housing and urban renewal, public health, community mental health, social welfare planning and fund-raising, race relations, and many other concerns that become especially acute both in the changing neighborhoods of large cities and in depressed rural and industrial areas.

Social work practice is designed to enrich the quality of life by enabling individuals, groups, and communities to achieve their greatest potential development. The overall aim of the School of Social Work at Virginia Commonwealth University is to provide professional education to meet these needs.

EDUCATIONAL PROGRAMS

The School of Social Work offers a four-year curriculum leading to the Bachelor of Social Work degree and a two-year graduate professional curriculum leading to a Master of Social Work degree. Special programs are available to selected groups of graduate students, and provide opportunities for meeting degree requirements or for developing special emphasis as part of the degree requirements. Included are a part-time program; advanced standing program for selected graduates of accredited undergraduate programs in social work; a social work educator program; program leading to certification as a school social worker; a cooperative program with the Presbyterian School of Christian Education; a dual degree

program in law and social work in conjunction with the T.C. Williams Law School as well as institutes, continuing education offerings, and workshops. A Ph.D. program in social policy and social work is offered in collaboration with the School of Arts and Sciences.

BACCALAUREATE SOCIAL WORK PROGRAM

The School of Social Work offers a four-year program leading to a Bachelor of Social Work degree.

The B.S.W. program is accredited by the Commission on Accreditation of the Council on Social Work Education. The objectives of the baccalaureate program are to prepare students for beginning social work practice and graduate social work education. A description of the baccalaureate program may be found in the *Academic Campus Undergraduate Bulletin of Virginia Commonwealth University*. A copy of the bulletin may be obtained by writing to the Office of Admissions, Virginia Commonwealth University, 821 West Franklin Street, Richmond, VA 23284.

MASTER OF SOCIAL WORK PROGRAM OBJECTIVES

At Virginia Commonwealth University, a graduate professional curriculum accredited by the Commission on Accreditation of the Council on Social Work Education and leading to the Master of Social Work degree, is offered through the School of Social Work. Changing manpower needs in the social work field indicate that students at the graduate level need to be prepared as specialists in a particular field of social service delivery. The recent expansion of knowledge in the human sciences as well as the complexity of social service delivery systems also require that students concentrate in depth in one area to achieve the knowledge and skill necessary to practice in these intricate systems.

The curriculum of the Master of Social Work program is designed to prepare social workers who are able to demonstrate:

1. Specialized knowledge and skill in the provision of services within a major social services delivery system (adult

and juvenile justice, family/public social services, health, mental health/mental retardation).

2. Competence in one method of social work practice (social casework, social group work, social planning, social work administration); beginning knowledge and skill in a second, related method of practice; and knowledge and appreciation of other methods of practice.
3. Knowledge of the profession and its evolution; sensitivity to critical professional issues; and commitment to its purposes, values, and ethics.
4. Ability to assess problems confronted in practice through scientifically grounded procedures.
5. Commitment and ability to participate in the development of strategies and policies and ameliorate social problems.
6. Ability to integrate and use in practice, knowledge of individual behavior and social structure.
7. Understanding of the interdependence of professional disciplines and skill in collaboration with others to achieve social welfare objectives.
8. Self-awareness; self-discipline; and accountability to clients, to the profession, and to society.
9. Ability to distinguish between what is known and what is not known and commitment to continued learning and contribution to knowledge.
10. Appreciation of the contributions to society of cultural and ethnic diversity and ability to identify and counteract discrimination.

ADMISSION TO MASTER'S DEGREE PROGRAMS

Students interested in full-time study are admitted to the M.S.W. program in the fall of each year. Part-time students are admitted throughout the year. Since space in each class is limited, it is advisable for prospective students to apply as early as possible during the academic year preceding anticipated enrollment. Ordinarily firm decisions in admissions are concluded by mid-May.

Admission Requirements

Each applicant for admission must hold a bachelor's degree from a college or university approved by the appropriate regional accrediting body. Neither the content nor the major subjects of the undergraduate program is rigidly prescribed. It is desirable, however, for an applicant to have studied some of the following subjects: history, political science, economics, cultural anthropology, sociology, biology, psychology, and English.

The school has particular interest in the recruitment and admission of minority group students. Special recruitment efforts have been developed toward this end.

The minimum academic requirement for eligibility for admission is the attainment of a 2.7 ("B-") grade point average on a 4.0 scale for the last 60 hours of academic work. Exceptions may be made for practitioners who have received the baccalaureate degree at least five years previously and who obtained a 2.5 grade-point average, or for students with unusual qualifications.

Within the policies established by the Academic Campus of Virginia Commonwealth University, determination of eligibility for admission is made by a school admissions committee which considers scholarship ability, academic background, work experience, if any, and personal qualities that indicate potential to meet the requirements of the social work profession.

The same admission procedures apply to part-time students or returning or transfer applicants from other universities.

Application forms are available from the Director of Admissions, School of Social Work, 1001 West Franklin Street, Richmond, VA 23284.

PART-TIME PROGRAM

The school welcomes mature and qualified persons who seek to participate in its part-time program. Applicants are expected to plan the completion of all requirements for the degree program. Students who enter the program may take the first 30 credits required toward a Master of Social Work degree on a part-time basis. Students must complete the last 30 hours of credit in the full-time program and maintain a 3.0

average on a 4.0 scale. All requirements for the degree must be completed within five years.

Most courses required in the part-time program are available through the VCU evening and summer sessions. Off-campus credit courses are also provided in Bristol, Fairfax, Lynchburg, and Roanoke, Virginia. Part-time students may register for day courses, if space is available.

COOPERATIVE PROGRAM WITH PRESBYTERIAN SCHOOL OF CHRISTIAN EDUCATION (PSCE)

In this program, limited to three students, the first year of study is completed at PSCE and the second year at the School of Social Work in order to meet the requirements for the degree of Master of Arts and Christian Education. The student may spend an additional year at the School of Social Work and meet the requirements necessary for the Master of Social Work degree.

Applications for admissions must be made to each institution separately. Those interested should write both to the Director of Admissions, School of Social Work, Virginia Commonwealth University, 1001 West Franklin Street, Richmond, VA 23284 and to the Dean, Presbyterian School of Christian Education, 1205 Palmyra Avenue, Richmond, VA 23227.

DUAL DEGREE PROGRAM IN LAW AND SOCIAL WORK

Through a cooperative arrangement with the T.C. Williams Law School, selected students in either school may pursue a four-year curriculum of graduate study leading to the degrees of Master of Social Work and Juris Doctor. The program is established in recognition of the role of public law in social and economic life.

The purpose of the dual degree program is to prepare professionals who will be versed in the values, knowledge, and skills of both fields, bringing an integrated base of competency to the resolution of human and social problems.

Applicants must successfully meet the admissions requirements of both schools, and upon admission will be assigned an advisor in each school. Students in the dual degree program may begin the course work in either

school, with the sequence of courses being determined by the point of entry.

The normal time required for completion of the integrated four-year curriculum is one academic year less than if each degree were taken separately. Elective courses will enable students to select areas in law and in social work which meet their particular interests. Interested persons should contact the Admissions Office of the T.C. Williams Law School, University of Richmond, VA 23173 and the Admissions Office of the School of Social Work, Virginia Commonwealth University, 1001 West Franklin Street, Richmond, VA 23284.

PH.D. PROGRAM

A doctoral program in social policy and social work is offered in collaboration with the School of Arts and Sciences. The program is designed to prepare persons in the development, implementation, and evaluation of programs and policies concerned with various social problems and to prepare social work educators well grounded in research, theory, and teaching methods.

Each participant will choose one of the following areas of specialization: social policy analysis, applied social research, program administration, or social work education.

Applicants to the program must have earned a master's degree in social work, sociology, or a related discipline. The Graduate Record Examination Aptitude Test is required of all applicants.

For application forms and additional information, write to the Doctoral Program in Social Policy and Social Work, 1001 West Franklin Street, Virginia Commonwealth University, Richmond, VA 23284. See "Interdisciplinary Programs" in this *Bulletin* for detailed information.

Admission

Admission to degree candidate status must be completed prior to or during the same semester in which a course is taken for credit, if the credit is to be applied toward a degree.

Requirements

Students must consult with an advisor prior to enrolling in courses in the part-time

program. Part-time students may carry a maximum of six credits per semester unless they are registered for field instruction. The field instruction requirements may be met through a block placement in one semester (four days per week) or in the summer (five days per week for 13 weeks), or during two semesters (two days per week).

ADVANCED STANDING PROGRAM

An advanced standing program is available to a selected group of students who have graduated from an undergraduate program in social welfare or social work accredited by the Council on Social Work Education. This program leads to a Master of Social Work degree upon completion of a minimum of 38 credit hours which can be completed in a summer session followed by an academic year with a concurrent field practicum.

Each student's curriculum is individually planned to recognize previous social work education and to insure a balanced graduate program.

Admission to Advanced Standing Program

Each applicant for admission to the advanced standing program must hold a bachelor's degree from an undergraduate social work program accredited by the Council on Social Work Education. This program usually begins in early June, continues through the summer, and culminates with graduation the following May. Applications should be submitted in the fall preceding the intended cycle of attendance. Ordinarily admission decisions are concluded by March. The minimum academic requirement for consideration for admission to the advanced standing program is the attainment of a 3.0 ("B") grade point average for the last 60 hours of academic work.

SOCIAL WORK EDUCATOR PROGRAM

A second-year concentration in undergraduate social work education is offered to selected students who demonstrate substantial scholarly attainment, effective social work practice skills, and specific interest in preparation for teaching careers. Students admitted to this concentration may have specialized in any of the methods

described below during their first year of study.

Students in this concentration complete all courses required for system and method specialization plus additional courses specific to teaching and social work education. During the fourth semester students complete a practicum in teaching in which they carry responsibility for an undergraduate course in social work. For further information, students should contact their advisors.

SCHOOL SOCIAL WORK PROGRAM

Through a collaborative program with the School of Education at the university, a limited number of students may meet standards for certification as school social workers, in addition to meeting all requirements for the Master of Social Work degree. Students interested in certification as school social workers should contact their advisors during the first semester of their program and may complete the dual requirements within 60 credits.

COOPERATIVE PROGRAM WITH PRESBYTERIAN SCHOOL OF CHRISTIAN EDUCATION (PSCE)

In this program, limited to three students, the first year of study is completed at PSCE and the second year at the School of Social Work in order to meet the requirements for the degree of Master of Arts and Christian Education. The student may spend an additional year at the School of Social Work and meet the requirements necessary for the Master of Social Work degree.

Applications for admissions must be made to each institution separately. Those interested should write both to the Director of Admissions, School of Social Work, Virginia Commonwealth University, 1001 West Franklin Street, Richmond, VA 23284 and to the Dean, Presbyterian School of Christian Education, 1205 Palmyra Avenue, Richmond, VA 23227.

DUAL DEGREE PROGRAM IN LAW AND SOCIAL WORK

Through a cooperative arrangement with the T. C. Williams Law School, selected students in either school may pursue a four-

year curriculum of graduate study leading to the degrees of Master of Social Work and Juris Doctor. The program is established in recognition of the role of public law in social and economic life.

The purpose of the dual degree program is to prepare professionals who will be versed in the values, knowledge, and skills of both fields, bringing an integrated base of competency to the resolution of human and social problems.

Applicants must successfully meet the admissions requirements of both schools, and upon admission will be assigned an advisor in each school. Students in the dual degree program may begin the course work in either school, with the sequence of courses being determined by the point of entry.

The normal time required for completion of the integrated four-year curriculum is one academic year less than if each degree were taken separately. Elective courses will enable students to select areas in law and in social work which meet their particular interests. Interested persons should contact the Admissions Office of the T.C. Williams Law School, University of Richmond, VA 23173 and the Admissions Office of the School of Social Work, Virginia Commonwealth University, 1001 West Franklin Street, Richmond, VA 23284.

PH.D. PROGRAM

A doctoral program in social policy and social work is offered in collaboration with the School of Arts and Sciences. The program is designed to prepare persons in the development, implementation, and evaluation of programs and policies concerned with various social problems and to prepare social work educators well grounded in research, theory, and teaching methods.

Each participant will choose one of the following areas of specialization: social policy analysis, applied social research, program administration, or social work education.

Applicants to the program must have earned a master's degree in social work, sociology, or a related discipline. The Graduate Record Examination Aptitude Test is required of all applicants.

For application forms and additional information, write to the Doctoral Program in

Social Policy and Social Work, 1001 West Franklin Street, Virginia Commonwealth University, Richmond, VA 23284. See "Interdisciplinary Programs" in this *Bulletin* for detailed information.

GENERAL INFORMATION

Special Fees 1980-81

Each application for admission as a student in the School of Social Work must be accompanied by \$10. This fee is not refundable and is not applicable toward university fees. At the time of notification of admission, the full-time applicant is required to pay a non-refundable deposit of \$50. This fee is applicable toward university fees. Student Association dues are \$10 for the entire two years.

Financial Assistance

Although financial assistance is limited, some funds are available. No prospective student should refrain from seeking admission to the school because of financial reasons alone.

Traineeships. States, through their departments of public welfare, mental health, corrections, and rehabilitation may have programs to assist individuals in securing professional education. They may be consulted locally.

The school also administers and awards federal and university traineeships for qualified students. However, since funds available through the School of Social Work are limited, applicants are strongly urged to seek other sources to finance their education.

Federally Guaranteed Loans. National Defense Loans, provided for by the National Defense Education Act of 1958, amended, are available to needy and capable students. Funds may be borrowed to cover costs directly related to university charges for which the university bills the student.

Under the Higher Education Act of 1965 a student can obtain a Federally Guaranteed Loan to complete his education. A student may apply for one of these loans through a participating commercial bank located in the state in which he resides. Application forms may be obtained directly from the bank. This loan program is recommended for graduate students.

Further information and forms necessary for university certification of a student's status and need may be obtained from the Director of Financial Aid, Virginia Commonwealth University, 327 West Main Street, Richmond, VA 23284, (804) 256-5241. Because of the time required for processing, these applications must be received by the first day of March preceding the academic year in which they will be used.

H. H. Hibbs Loan Fund. The H. H. Hibbs Loan Fund was established by the School of Social Work Alumni Association for short-term emergency needs. Alumni, faculty, and friends of the school are encouraged to contribute to it. Enrolled full-time students who wish to apply for a loan should discuss this with their faculty advisor and the assistant dean.

ADDITIONAL RESOURCES, ACTIVITIES, AND PROGRAMS

Continuing Education Program

The Department of Continuing Education in the School of Social Work offers a variety of lectures, institutes, and workshops as part of the school's commitment to enhance social work practice and broaden educational experiences for students, social workers, field instructors, and others in social service delivery systems. State, regional, and local agencies and institutions frequently identify educational and training needs in content or skill areas for selected staff members. The Department of Continuing Education, through contractual arrangements, contributes expertise in designing and implementing short-term training courses.

The school offers continuing education units (CEU's) to participants through the Division of Continuing Studies and Public Service at Virginia Commonwealth University. In addition to existing university funds, grants to the school have been available from the National Institute of Mental Health; Council on Social Work Education; Virginia Department of Mental Health and Mental Retardation; State Office on Volunteerism; Virginia Division of Drug Abuse Control; Virginia Department of Welfare; U.S. Department of Health and Human Resources; U.S. Social and Rehabilitation Service; Council on Criminal

Justice of the Virginia Division of Justice and Crime Prevention which support continuing education offerings.

Offerings of the Department of Continuing Education are planned throughout the year and are available throughout Virginia. For further information about specific continuing education courses, inquiry should be addressed to the director of continuing education, School of Social Work, Virginia Commonwealth University, 1001 West Franklin Street, Richmond, VA 23284.

Stuart J. Gluck Memorial Reading Room. Established by alumni, family, and friends of Stuart J. Gluck, a small collection of social work publications is housed in the Stuart J. Gluck Memorial Reading Room located in Room 7 of the Raleigh Building.

Alumni Association

The School of Social Work Alumni Association actively supports the program of the school with the president serving as a member of the Advisory Board. The association established the H. H. Hibbs Loan Fund and continues to contribute to the support of it. The Stuart J. Gluck Memorial Reading Room was established by a special committee of alumni and friends and is administered by the association. The association has quarterly meetings with the spring meeting being held during the Annual Conference of the Virginia Council on Social Welfare.

Alumni Association Officers, 1980-81

Frederick Pond
President
Linda Shields
Vice-President
Neil DeMasters
Secretary
Betty Phillips
Treasurer

Student Association

The Student Association is the organization of students enrolled in the school, established for the purposes of facilitating communication among students and between the student body and the school. It provides a means by which student concerns and ideas can be formulated and acted upon. Also, it enables students to conduct a variety of social and other activities throughout the year.

This organization plays a vital role in the educational process. Student contributions to the governance and curriculum of the school are of value to both the institution and the student. Participation in the decision making process is accomplished through student representation on committees. The faculty and the students work closely together throughout the year to meet the needs of graduate social work education. Students participate as full members of many committees within the school.

Student Association Officers 1981-82

Maurice Fisher
President
Mark Lyman
Vice-President
Shakay Kazarian
Secretary
Amanda Cummings
Treasurer
Bobby O'Donnell
Co-ordinator of Student Life

Black Student Association

The Black Student Association was established to create and maintain an atmosphere of unity and brotherhood among black students in the School of Social Work. It serves to assist the students in their personal and professional growth and development. Membership in this organization helps the student to develop a keen awareness of the acute needs of the black community and the active role that must be assumed by the dedicated black professional social worker in promoting the general welfare of black citizens. To attain these goals, the organization utilizes the educational process and related experiences of the student at the school and in field work. Students are encouraged to participate in all phases of the academic environment. Black students are expected to maintain membership in and are members of the Student Association of the school.

Black Student Association Officers 1981-82

Karen Starks
President
Millicent Nesmith
Vice-President
Carlin Pegram
Secretary

Letita Pannill
Treasurer
Mary Cain
Executive Committee Representative

MASTER OF SOCIAL WORK DEGREE REQUIREMENTS

The M.S.W. degree requires the completion of 60 credits of graduate study. For full-time students, the first year, a foundation year of the program, covers major concepts in human behavior, social policy, ethnic and cultural diversity and the major method selected by the students, as well as other interventive methods. Students are grouped by areas of specialization in the second year. This year is designed for the study of more specific knowledge of the social service delivery system as it relates to human behavior, social policy, research, and practice. Students are in the field two days each week during the first academic year, and three days each week during the second academic year.

Field Instruction

Field instruction is an integral part of the curriculum of the School of Social Work. Under professional supervision the student integrates into practice the knowledge, attitudes, and skills studied in the total curriculum. Field instruction placements in the four specialized service delivery systems are available in Richmond and in other Virginia communities. Included are juvenile learning centers, adult correctional facilities, family service agencies, community mental health centers, hospitals, schools, treatment centers for children, social service bureaus, alcohol services, and planning agencies.

Students may be assigned to placements which are a distance from Richmond (e.g. Norfolk, Washington, D.C., Staunton). Arrangements for travel and accommodations must be made by students at their own expense. Students who reside in communities outside of Richmond may request field placement there.

Academic Status

A minimum of one year of full-time study, a minimum grade point average of 3.0 ("B") on a 4.0 scale over the entire period of study, a total of 60 credits in the two-year or 38

credits in the advanced standing program, and demonstrated ability in social work practice are required for graduation with a Master of Social Work degree.

A student must have completed the 30 credits of the first year curriculum and have a 3.0 average to continue into the second year.

A student with less than a 3.0 average may apply to return after an absence of one year.

A student with less than a 3.0 average at the end of the first year, who takes courses in the Summer Sessions and raises his average to 3.0, may petition for return without a year's absence. However, each student's situation will be considered individually and the student may still be required to take a leave of absence for one year.

A student who receives a grade of "C" or below in six credits of course work anytime during the first 30 credits of study or a grade of "C" or below in 20 percent or more cumulatively in succeeding semesters will be dropped automatically from the program without regard to grade point average (GPA).

A student who receives a "C" (2.0) in the first semester of field instruction may continue in the program. In each subsequent semester, however, a minimum of "B" (3.0) in field instruction will be required for successful completion of the MSW Program.

At all times, a student must show acceptable professional behavior to be retained in the graduate program.

Residency Policy

During the last 30 semester hours of credit of the Master of Social Work degree, a student is required to take a minimum of 12 credit hours during consecutive fall and spring semesters and be registered for field instruction for each of these semesters.

WAIVERS

Waivers of required courses may be granted without credit. Students seeking the waiver of a course should petition the chairman of the particular curriculum system in which the course for which they seek waiver is offered. After an evaluation, the student will be informed of the decision to grant or refuse a waiver.

Students seeking the transfer of graduate

credits from other accredited universities or from departments of VCU must contact the assistant dean in order to follow the proper procedures.

Additional policies and procedures governing the educational programs of the School of Social Work may be found in the School of Social Work Student Handbook which is distributed at the time of matriculation.

SELECTION OF SPECIALIZATION 1981-82

All students are required to concentrate their studies within one social service delivery system and in one major method of social work practice. Social service delivery system concentrations are available in four areas: the adult and juvenile justice system, health system, family service and welfare system, and mental health and mental retardation system. Students are required to select one major method from among social casework, social group work, social planning, or social work administration. Each concentration is described below.

At the time of admission students are required to choose a major method of social work practice. Selection of a social service delivery system takes place before entry into the second year as a full-time student.

Family Public Social Services System. The family as a system is defined by the functions it performs. As the primary social and emotional unit in society, the family functions to meet the changing needs of its members for affection, subsistence, socialization, and in the utilization of other social institutions. In this context, public and private social agencies provide economic supports and social services to prevent family breakdown or destitution, to maximize effective social functioning of the family, and to meet special needs of persons deprived of family membership. These public and private agencies include agencies which meet basic family welfare needs for income, housing, employment, and education; family agencies which clearly identify the family as a unit of service and provide counseling to individuals and families; agencies which deal primarily with children and youth affected by family breakdown or dissolution; agencies which offer supportive services to families with

aged members or to individual aged persons; and agencies which interact with larger divisions of society to identify family needs, plan and develop services, and act to promote equitable distribution of political, social, and economic resources which affect the quality of family life. Social workers provide counseling services to individuals and families. They also work as supervisors of direct service workers, staff developers, family life educators, consultants, administrators, social planners, and program evaluators.

SOCIAL SERVICE DELIVERY SYSTEMS

Adult and Juvenile Justice System. The justice system is charged by society to deal with behavioral deviance from socio-legal norms and standards. It is concerned with adults charged with criminal offenses and juveniles charged with either criminal or status offenses. The system encompasses a variety of settings which relate to offenders from the point of arrest or petition through final discharge from the system. These settings include courts, juvenile learning centers, adult correctional facilities, agencies charged with administering probation and parole services, half-way houses, state departments of corrections and youth services, and planning agencies such as Law Enforcement Assistance Administration. Social workers may work in the system as direct service workers, supervisors, staff developers, program evaluators, planners, or administrators.

Health System. Focus in the health system is on a health to illness continuum. The maintenance of health is a basic need of all individuals and illness is a major social problem which can disturb patterns of individual and family functioning, produce emotional strain for patients and their families, and cause economic and social distress. The health system is concerned with prevention of illness, care for those who become ill, and restoration of sick and disabled persons to maximum health and social functioning. Health related agencies include general and special hospitals and clinics; health departments on state and local levels; health planning agencies; community health centers, child development centers; nursing and con-

valescent homes; family planning, abortion, and sex counseling programs; health maintenance organizations; health advocacy and consumer agencies; and vocational rehabilitation programs. As part of a multidisciplinary team, social workers provide direct social services to patients and their families or serve as consultants, educators, administrators, planners, or program evaluators.

Family Public Social Services System. The family as a system is defined by the functions it performs. As the primary social and emotional unit in society, the family functions to meet the changing needs of its members of affection, subsistence, socialization, and in the utilization of other social institutions. In this context, public and private social agencies provide economic supports and social services to prevent family breakdown or destitution, to maximize effective social functioning of the family, and to meet special needs of persons deprived of family membership. These public and private agencies include agencies which meet basic family welfare needs for income, housing, employment, and education; family agencies which clearly identify the family as a unit of service and provide counseling to individuals and families; agencies which deal primarily with children and youth affected by family breakdown or dissolution; agencies which offer supportive services to families with aged members or to individual aged persons; and agencies which interact with larger divisions of society to identify family needs, plan and develop services, and act to promote equitable distribution of political, social, and economic resources which affect the quality of family life. Social workers provide counseling services to individuals and families. They also work as supervisors of direct service workers, staff developers, family life educators, consultants, administrators, social planners, and program evaluators.

Mental Health and Mental Retardation System. The mental health and mental retardation system has responsibility for care and treatment of persons with retardation and emotional impairment and for prevention of mental retardation and mental illness. Both of these conditions are major social problems which impose severe emotional, social,

and financial burdens upon individuals, their families, and their communities. Mental health organizations include state institutions for the mentally ill and/or the mentally retarded; community mental health centers; and public and private hospitals, mental health clinics, child guidance clinics, rehabilitation centers, halfway houses, and sheltered workshops. Persons served may manifest relatively mild emotional problems to severe psychosis, mild to severe mental impairment, and either chronic or acute illness. As a part of a multidisciplinary team, social workers provide direct social services to patients/clients and their families or serve as consultants, supervisors, planners, administrators, or program evaluators in the organizations and agencies that the system comprises.

SOCIAL WORK MAJOR METHODS

Administration. Students electing social work administration as a major method focus upon the assumption of responsibilities as social service agency administrators or subadministrators in either public or private agencies. The emphasis is on the organizational problems that confront administrators in relation to professional mandates and business principles involved in meeting the overall social work professional imperative, that is the efficient use of social service organization and personnel in the resolution of social problems at the individual or community level. Students selecting administration as their major method will be required to take social planning as their secondary method. Admission to social work administration is limited to those applicants with a minimum of three years' experience in the social service field or some equivalent.

Social Planning. Social planning as a major method emphasizes problem-solving skill in the sense of creating, initiating, and maintaining community institutions and services that can effectively provide for the social environmental needs of the public being served. The social planning includes the study of

the various organizations that make up the social welfare system, methods, and processes of social planning. Among these are methods of organizing people to achieve community objectives, defining the planning task, selection of goals and priorities, decision-making, coordination of services, and change strategies. Those selecting social planning as a major social work method will be required to select social work administration as their secondary method.

Social Casework. Casework as a method contributes to individual and family development, prevention of social impairment, restoration of effective social functioning, and realization of potential for responsible and satisfying social living. Social casework centers on the establishment and utilization of a helping relationship, unique assessment of the individual's and family's problems within the context of their situation, treatment, termination, referral and transfers, interventions on behalf of clients, and contributions to the client's ability to achieve his own and society's purposes. Students selecting social casework as their major method will be required to take social group work as their secondary method.

Social Group Work. Social group work is a method of social work practice that aims to help people help each other in the enhancement of their social functioning and the achievement of self-actualization through the use of group experience and to help groups function effectively and responsibly in the fulfillment of the purposes. The social group work method is used in services that help restore effective social functioning, prevent social impairment, and develop optimum individual potential in social relations. The curriculum covers the study of the various aspects of group life; the meanings of group experiences for the group as a whole and for the individual members; and methods of facilitating the process of group and individual development. Students selecting social group work as their major method will be required to take social casework as their secondary method.

COURSE REQUIREMENTS FOR THE MASTER OF SOCIAL WORK DEGREE

Specific courses required of students may differ depending upon the choice of concentration in a social service delivery system and/or the choice of a major method of social work practice. The following courses and semester outlines will indicate the specific courses according to the various delivery systems or major methods.

TWO YEAR PROGRAM

First Year, Fall Semester

| | | |
|--|------------------------------|-------------------|
| Individual in Society, SLW605 | All Students | 3 Credits |
| Foundations of Social Policy, SLW607 | All Students | 3 Credits |
| Methods I Course | By Method | 3 Credits |
| Fundamentals of Social Casework, SLW601 | All Casework Majors | |
| Fundamentals of Social Group Work, SLW602 | All Group Work Majors | |
| Fundamentals of Social Planning, SLW603 | All Social Planning Majors | |
| Fundamentals of Social Services Administration, SLW604 | All Administration Majors | |
| Secondary Method Course | By Method | 3 Credits |
| Fundamentals of Social Casework, SLW601 | All Social Group Work Majors | |
| Fundamentals of Social Group Work, SLW602 | All Casework Majors | |
| Fundamentals of Social Planning, SLW603 | All Administration Majors | |
| Fundamentals of Social Services Administration, SLW604 | All Social Planning Majors | |
| Field Instruction I, SLW680 | All Students | 3 Credits |
| TOTAL | | 15 Credits |

First Year, Spring Semester

| | | |
|---|---|-------------------|
| Black Experience/Racism, SLW705 | All Students | 3 Credits |
| Social Structure and Human Behavior, SLW606 (Prerequisite SLW605) | All Students | 3 Credits |
| Methods II Course | By Method | 3 Credits |
| Social Casework II, SLW651 (Prerequisite SLW601) | All Casework Majors | |
| Social Group Work II, SLW652 (Prerequisite SLW602) | All Group Work Majors | |
| Social Planning II, SLW653 (Prerequisite SLW603) | All Social Planning Majors | |
| Administration II, SLW654 (Prerequisite SLW604) | All Administration Majors | |
| Methods Course | By Method | 3 Credits |
| Social Work Practice in Communities and Organizations, SLW703 | All Casework and Group Work Majors | |
| Social Work Practice with Individuals and Groups, SLW701 | All Social Planning and Administration Majors | |
| Field Instruction II, SLW690 (Prerequisite SLW680) | All Students | 3 Credits |
| TOTAL | | 15 Credits |

Second Year, Fall Semester

| | | |
|---|--|-----------|
| Methods III | By Method | 3 Credits |
| Casework III—Family Welfare, SLW711 (Prerequisite SLW601-651) | All Family/Welfare Casework Majors | |
| Casework III—Health, SLW721 (Prerequisite SLW601-651) | All Health Casework Majors | |
| Casework III—Justice, SLW731 (Prerequisite SLW601-651) | All Adult and Juvenile Justice Casework Majors | |
| Casework III—MH/MR, SLW741 (Prerequisite SLW601-651) | All MH/MR Casework Majors | |
| Social Group Work III, SLW752 (Prerequisite SLW602-652) | All Group Work Majors | |
| Social Planning III, SLW753 (Prerequisite SLW603-653) | All Social Planning Majors | |
| Administration III, SLW754 (Prerequisite SLW604-654) | All Administration Majors | |

| | |
|--|---------------------------------------|
| Social Policy Course (Prerequisite SLW607) | 3 Credits |
| Social Welfare Policies and Services for Individuals and Families, SLW617 | All Family Service and Welfare Majors |
| Social Policy and Health Care, SLW627 | All Health Majors |
| Adult and Juvenile Justice Policies and Pro- grams, SLW637 | All Adult and Juvenile Justice Majors |
| MH/MR Policy Services, SLW647 | All MH/MR Majors |
| Human Behavior Course (Prerequisite SLW605) | 3 Credits |
| Dynamics of the Family, SLW615 | All Family Service and Welfare Majors |
| Physical Illness and Handicaps, SLW625 | All Health Majors |
| Person in Justice System, SLW635 | All Adult and Juvenile Justice Majors |
| Emotional Disorders, SLW645 | All MH/MR Majors |
| Foundation of Social Research, SLW 708 | All Students |
| Field Instruction III, SLW780 (Prerequisite SLW680-690) | All Students By System |
| | TOTAL |
| | 15 Credits |
| Second Year, Spring Semester | |
| Field Research, SLW718, 728, 738, or 748 (Prerequisite SLW708) | All Students |
| Elective in System | All Students |
| Electives (2) | All Students |
| Field Instruction IV, SLW790 (Prerequisite SLW680-690-780) | All Students by System |
| | TOTAL |
| | 15 Credits |

FACULTY

Professors: Adler; Bernard; Bloom; Carpenter; Falck; Roth; Rothenberg; Russell; Schwartz; Scotch; Sharlin (Visiting);
 Emeritus Professors: Dahlke; Jones; Kalif; Lane; Neumann; Newton; Tropp; Washer
 Associate Professors: Barber; Beverly; Carlton; Kolevzon; Saunders; Schriberg; Seaberg; Schneider; Wells; Wompieriski
 Assistant Professors: Biggerstaff; Farris; Forbes; Green; Hinchman; Hood; Jimenez-Vazquez; Kleff; Koerin; McGreal; Miller; Moore; Morris; Raphael; Satterwhite; Singer; Walker

GRADUATE COURSES IN SOCIAL WORK (SLW)

601 Fundamentals of Social Casework. 3 credits. Introduction to basic theories, principles, and skills of social casework practice and processes: the giving and taking of help; the establishment and utilization of the casework relationship; referral; intake and diagnostic assessment; treatment; transfers and termination; interventions on behalf of clients; and the limits of social casework. Examination of past life experiences and current stresses in relation to identification of the unique characteristics of each individual and assessment of the individual's problems within the context of general principles. Special emphasis on the professional use of self, the common core of social casework practice, and the person-in-situation.

602 Foundations of Social Group Work. 3 credits. The values, objectives, and principles of social group work practice. All major aspects of group life, with emphasis on the purposes, content, and forms of various group experiences. The meanings of these experiences for the group as a whole and for the individual members.

Special emphasis on the beginning process in working with groups. Introductions to knowledge and skill in the use of program content in working with groups. The worker's role in facilitating the processes of group and individual development.

603 Fundamentals of Social Planning. 3 credits. Social planning by community decision-making organizations (welfare organizations, city, regional, state, and federal planning and service agencies); methods of planning; consumer advocacy; defining the planning task; selection of goals and priorities; decision-making; interorganizational exchange; coordination of services; planning problems in developing specialized services; and change strategies for racial and ethnic minorities. Consumer participation in the planning process; role of the worker in alternative methods of community organization practice.

604 Fundamentals of Social Work Administration. 3 credits. Introduction to administration in social work settings. Knowledge and research about leadership theory. Directing techniques. Communication networks. Organizational representation. Systems analysis. Change-in-organization models. Authority and professional function in bureaucratic settings. Motivation theory.

605 Individual in Society. 3 credits. Theoretical perspectives on human growth and development. Human behavior as a continuum from the so-called normal to the most disordered. Interrelationships between the psychological, physical-biological, and sociological forces that shape the formation of the self. The variety of ways in which growth and development proceed, particularly in relation to racial, ethnic, and cultural differences. Impact of social forces such as group membership, community life style, and institutional racism on human behavior.

606 Social Structure and Human Behavior. 3 credits. The behavior of the individual as a member of a community with an emphasis on community functions and institutions as they impact on the person. Concepts of socialization, the network of social systems, social control, social participation, social role, mutual support, and social stratification. Examination of variations in communities in relation to such factors as race, income, social status, religion, and ethnicity as a means of understanding the diverse ways in which a community's activities are manifested in its institutional patterns and how these differences affect behavior.

607 Foundations of Social Policy. 3 credits. Basic knowledge about policy development and assessment and a foundation for analysis of specialized social service delivery systems. Policy development and evaluation as structured by: evolving definitions of human rights; the law as it defines rights and duties of individuals, social agencies, and society; values as definers of social problems and policies; and resources as opportunities and constraints, including money, manpower, facilities, and effects of institutional racism. Skill in application of selected models for analysis of current social welfare policies and programs.

608 Conduct of Inquiry. 3 credits. Nature of knowledge and theory building and utilization, serving as an introduction to the scientific method, and including analysis of community-based data and implications for social work practice. Provides students with the foundations of the research process (problem identification, problem formulation, and research design), as well as the critical thinking and conceptual and analytical skills which are prerequisite for professional social work practice.

615 Dynamics of the Family. 3 credits. Definition and function of the family as a biological-sociopsychological unit in American society. Individual growth and development in family life. Significance of family in socialization and nurturing. Development of family style. Impact on the person of family interactions. Impact of changing male/female roles, sexual mores, and new forms of family experience. Diversity of family life in terms of racial and ethnic differences. Interaction of the family with other social institutions, including public welfare agencies, schools, and agencies offering leisure time activities. Impact of social and community processes on individual and family functioning.

617 Social Welfare Policy and Services for Individuals and Families. 3 credits. Analysis of policy, program, and service developments in the public and private sectors which impact on the lives of individuals and families. Legal bases and current issues relevant to system components in the public and private sectors; auspices, funding patterns, and resource distribution. Policy development as structured by: the shifting context of American values and philosophy; economic needs and opportunities; employment, income, and living standards; the roles of social, economic, and political institutions; and the incidence and impact of racism and social factionalism.

625 Physical Illness and Handicaps. 3 credits. Physical health and illness and the emotional and social stress

placed upon individuals and families when physical illness and handicaps are present. Psycho-social factors in the etiology and effects of illness and other physical handicaps. Specific disease states, including medical terminology, and the emotional behavior related to specific physical disabilities. Physical illnesses and handicaps which are significant at various life stages. Human sexuality and dysfunctioning in the sexual area. Social conditions and ethnic and racial differences as they contribute to health problems. Physical factors in the cause and treatment of alcoholism and drug abuse. Role of the health system as an influence on the behavior of the person in that system.

627 Social Policy and Health Care. 3 credits. Analysis of the purposes, functions, and structures of the health care system at the federal, state, and local level. Policy development in the public and private sectors of the system as structured by movements and counter-movements within the health professions; professional organizations and related business organizations; the varieties of health related programs and services, shifting values regarding access to health care services, including the influence of individual and institutional racism and consumerism; funding patterns and resource distribution; and standard setting. Analysis of existing structures, proposed legislation, and issues within the context of the social right to quality health care, ranging from prevention to after-care.

635 Person in the Justice System. 3 credits. Definitions of deviant, anti-social, and criminal behavior. Etiology of socially unacceptable behavior. Theoretical positions in relation to deviant behavior. Explicit and implicit theoretical components of the various treatment modalities found in the justice system. Effect of personal and institutional racism on psycho-social functioning. Prison experience as a force in development of a changed life style.

637 Adult and Juvenile Justice Policies and Programs. 3 credits. Analysis of the purposes, functions, and structures of the adult and juvenile justice systems, legal and economic bases of the current system, analysis of the system, and the relationship of the parts of the system to one another. Policy development as structured by selected movements and counter-movements in American criminology, penology, forensic psychiatry, and social welfare, including: institutional and non-institutional policies and programs; adult and juvenile system components; law as it relates to system clients; problems in system reform; and systemic and institutional racism. Current system-related issues ranging from arrest to probation and parole.

645 Emotional Disorders. 3 credits. Definition of the concepts of mental health, mental illness, and mental retardation, with a view of mental health and mental illness as a continuum. Etiology of emotional disorders and social deviance. Traditional classification systems and newer approaches in use of clinical practice. Alcoholism and other substance abuse in terms of he physiological, psychological, and sociological components of causation, behavior, and treatment. Causes of and treatment modalities in mental retardation and behavior patterns of the mentally retarded. Comparative theories and therapeutic approaches. Impact of

racial and ethnic differences on emotional disorders and social deviance. Effect of mental health and the larger community on the behavior of the person.

647 Mental Health and Mental Retardation Policy and Services. 3 credits. Analysis of the purposes, organization, and public and private programs of federal, state, and local mental health and mental retardation system components. Policy development as structured by social responses to mental illness and mental retardation, including institutional and non-institutional policies and programs; shifting social values and attitudes; the law as it relates to the rights of the system's clients; forensic psychiatry; the socio-economic status of the system's clients; including the impact of racism and poverty; citizen and consumer participation; and funding patterns and resource distribution. Analysis of current and proposed mental health and mental retardation legislation relating to needs ranging from prevention to after-care.

651 Social Casework II. 3 credits. Re-examination in depth and breadth of the helping process with special emphasis on practice settings and human behavior concepts relevant to social service delivery system specializations. In-depth examination of problems clients present and subsequent refinement of casework intervention with emphasis on the influence of biopsychosocial factors, illness and disease, family dynamics, and ethnicity in practice. Crisis intervention and short-term treatment.

652 Social Group Work II. 3 credits. The group's operational patterns and processes, the worker's role in enabling the group to achieve its purposes, including analysis of the processes of group formation, group goal-achieving, group relations, group development, and group termination. Differential assessment of target populations and racial ethnic factors. The use of program content in the goal-achieving process. Small group theory and research related to social group work practice.

653 Social Planning II. 3 credits. Rational, political, and value considerations related to feasible planning for social change. Problem-solving activity in relation to the design, funding, and evaluation of social service delivery systems. Fund-raising, grantsmanship, determination of need, Program Evaluation Review Technique system, cost comparison analysis, program design, and program evaluation.

654 Administration II. 3 credits. Design of control systems. Budgeting processes. Program evaluation and research. Organizational planning steps. Inter- and intraorganizational coordination. Negotiation skills. Conflict resolution. Goal setting. Roles of administrators in human resources settings.

658 Evaluative Research in Direct Practice. 3 credits. Methods, problems, and research findings related to the evaluation of social work practice. Research design options and methodologies pertinent to assessing the effectiveness of clinical practice. Roles and contributions of evaluation research in clinical practice and in depth knowledge of research findings. Critical assessment of research literature related to selected social work practice problems.

662 Family Theory and Family Therapy: A Social Work Perspective. 3 credits. Prerequisite: Casework III, Group Work III, or permission of instructor. Emphasis on a conceptual base for the practice of family therapy. Attention to developments in the field; examination of cases which illustrate the practice of family therapy. Extension of knowledge and practice for family specialists; theoretical base and practice applications of family therapy for non-family specialists.

668 Program Evaluation. 3 credits. Methods, problems, and research findings related to the evaluation of social welfare programs. Research design options and methodologies available for program evaluation. Organizational and administrative contexts in which evaluation activities are initiated, supported, disseminated, and utilized. Data processing and the roles of data analysis and the computer in the evaluation of social welfare programs.

680 Field Instruction. 3 credits. Integration and application of core course and field learning as an accountable representative of a social agency. Basic knowledge, attitudes, and skills necessary for responsible professional social work practice in a selected service delivery system. Educational emphasis on the active use of content from all areas of the curriculum.

685 Block Field Instruction. (for part-time students only) 6 credits. Integration and application of core and system specific content as an accountable representative of a social agency. Knowledge, attitudes, and skills necessary for responsible professional practice in a selected service delivery system. Educational emphasis on the active use of content from all areas of the curriculum.

690 Field Instruction II. 3 credits. Continuation of field instruction and learning as an accountable representative of a social agency, with emphasis on the integration and active use of content from all areas of the curriculum. Emphasis on the integration and application of system specific knowledge and attitudes and on the development of skills required for professional social work practice in a selected service delivery system.

700 Human Sexual Behavior. 3 credits. Prerequisites: SLW 606, 615, 625, 635, 645, or permission of instructor. Exploration of human sexual development biologically, psychologically, and socially. Examination of theory; male and female development; variations in sexual expression. Current issues, including abortion and fertility.

701 Social Work Practice with Individuals and Groups. 3 credits. Introduction to basic theories and principles of social casework and social group work practice and processes. Emphasis on utilization in planning and organizational contexts. The worker's role in facilitating group and individual development. The establishment and utilization of the helping relationship. The components of casework processes and the role of the worker. All major aspects of group life, with emphasis on the purpose, content, and forms of various group experiences.

702 Social Group Work IV. 3 credits. Prerequisite: SLW 646 or permission of instructor. The final course in a series of method courses for social group work ma-

jors. Integration and application of group work practice theory in relation to a variety of other contingent factors in social work practice including: supervision of group leaders; the process of group work consultation; methods of team collaboration with other disciplines; the relation of group work to group psychotherapy; and the sensitivity-encounter movement. The application of group work to family group counseling and to varied target populations by age, sex, ethnicity, agency purpose, and client need. Use of groups for crisis intervention. Explaining group work to other professions. Methods of self-evaluation in group work practice.

703 Social Work Practice in Communities and Organizations. 3 credits. Knowledge of the dynamics of organizational behavior and structures as they relate to effective service delivery. Beginning skill in applying various administrative concepts, e.g., supervision, communication, delegation, division of labor, and staff development, to direct service agencies. Skill in utilizing social planning concepts, e.g., assessment of needs, interorganizational exchange, coordination of services, and funding. Knowledge of social planning processes by community organizations and alternative methods of achieving social policy goals. Emphasis on the importance of utilizing community resources to enhance the functioning of the direct service agency and the community itself.

704 Supervision. 3 credits. Prerequisite: Method III or permission of instructor. Task components and responsibilities in supervision of the social worker. Emphasis on a conceptual framework for supervision, including knowledge base, methods, and skill in supervision. Attention to affirmative action programs in social service delivery systems.

705 Racism and the Black Experience. 3 credits. Examination of the experience of blacks in the context of American society as a framework for analysis and understanding of racism as a socially determined phenomenon. Emphasis on understanding of and sensitivity to institutional structures and individual behaviors included in the concept of racism. Analysis of the influence of race and ethnicity on the various processes in which clients, social workers, and social agencies engage. Development of indices of racism and strategies for its elimination.

708 Foundations of Social Research. 3 credits. Use of scientific method in the development of theory and practice for social work. Examination of the methodology of scientific investigation, including technologies of research design, probability theory, and statistical inference. Information storage and retrieval systems and scientific communication skills for information dissemination and consumption. Problem identification, hypothesis testing, and evaluation of the effectiveness of alternatives. Review and testing of research efforts for application and communication.

709 The Interdisciplinary Team in Social Service Delivery Systems. 3 credits. Prerequisite: fourth semester standing or permission of instructor. Exploration, analysis, and definition of the meaning of the team concept. Attention to the roles and functions of social workers within the interdisciplinary team; emphasis on elements of similarity and difference among social work

and other disciplines; common and differential elements of the social work role within a variety of service systems; opportunities for and obstacles to effective team functioning. Attention to the development of a conceptual framework for interdisciplinary practice; participation in team experiences; exposure to a variety of team patterns.

711 Casework III: Family Service and Welfare. 3 credits. Family dynamics and family centered casework in both the public and private sector with focus on the integration of human behavior principles, knowledge of this system, and casework method at an advanced level. Relevance of various theoretical frameworks of family dynamics for casework knowledge, principles, and skills. Joint and conjoint interviewing, the marital relationship as a focus for treatment, family life education, family treatment, work with the aged, one-parent families, child placement, and adoptions. Concrete services within the framework of casework practice and collaboration with other disciplines. Impact of race, ethnicity, and social class in both the genesis and treatment of family problems. Pertinent research findings that illuminate practice.

718 Research in the Family Public Social Services System. 3 credits. Prerequisite: SLW 708. Examination of alternative designs available for research in agencies and programs which serve the family group. Evaluation of direct service and program outcomes in family service settings. Interconnection of research with other curriculum content and with field practice.

721 Casework III: Health System. 3 credits. Application of human behavior and casework principles in the health system. Basic concepts of illness such as stress, psychosocial, and psychosomatic influences and the impact of race, social class, and ethnicity on states of health and illness. Behavior and practice in relation to specific disease entities such as cancer, heart disease, et al. Impact of illness on families and practice implications. Primary and secondary prevention and the particular health problems of the aging and dying. Role of the social worker in public and private secondary settings, principles of collaboration in an interdisciplinary field, and use of community resources. Research findings which illuminate practice and define further study areas.

722 Advanced Seminar in Direct Practice in the Health System. 3 credits. Prerequisites: SLW 625 and 721 or 752 or permission of instructor. Intensive study of direct social work practice in health settings. Emphasis on the conceptualization of a theoretical base for direct social work practice in health, including integration of biopsychosocial theory, practice theory and methods. In-depth case presentation and analysis. Attention to the dimensions of direct social work practice in health settings, including traditional and innovative approaches, social work consultation, and a heightened sense of identity as a social worker in the health system.

727 The Health Client as Consumer and Advocate. 3 credits. Prerequisite: fourth semester standing or permission of instructor. Impact of the health consumer movement on professional autonomy and control; analysis of the effects of emerging patient rights (legal and social) on the relationships of health service con-

sumers and providers at the micro and macro levels. Examination of the definition and promotion of consumer involvement in the planning, implementation, and evaluation of health services by government (executive, legislative, judicial) and the health professions, including social work. Alternative models of consumer participation and control at the micro and macro levels, and the promotion of client self-determination in health care.

728 Research in the Health System. 3 credits. Prerequisite: SLW 708. Current research issues and problems relevant to social work in the health system. Emphasis on the relationship between research and its use in social work practice in health settings. Execution and presentation of an independent research project.

731 Casework III: Adult and Juvenile Justice System. 3 credits. Integration of human behavior theory, knowledge of the justice system, and casework practice at an advanced level. Practice in authoritative secondary and transitional settings. Emphasis on various conceptual frameworks and the emerging treatment interventions developing from this knowledge, such as behavior modification, contract approaches, therapeutic community, and family therapy. Interventions with families of persons in the system. Interdisciplinary functioning, collaboration, and use of community resources. Impact of race, ethnicity, and social class. Research findings pertinent to behavior and practice.

735 The Adolescent and Delinquent Behavior. 3 credits. Prerequisite: fourth semester standing or permission of instructor. Emphasis on psychosocial-sexual development inclusive of family and peer relationships; social tasks and behavioral manifestations with particular reference to anti-social responses; racism and poverty as structural variables in the development and definition of anti-social and delinquent behavior. Examination and analysis of current status of adolescents in terms of social requirements and limitations and varying responses of the adolescent within the context of an historical perspective.

738 Research in the Justice System. 3 credits. Prerequisite: SLW 708. Review of research in the justice system. Emphasis on evaluation research and use of research findings by social workers in the justice system. Development of an independent research project by the student in the macro or micro areas of social work practice in the justice system.

739 Social Work and the Law. 3 credits. Prerequisite: Method III or permission of instructor. Overview of fundamental principles of Anglo-American law; structure and function of legal system and its professional membership. Lawyers and their working relationship with social workers. Emphasis on client centered problems encountered in confrontation with the legal community and the role social workers can play in helping clients deal with those encounters. Attention to issues relative to client needs as welfare rights, consumer protection, mental health treatment, family related law, and discrimination relative to education, housing, employment, health care. Legal issues confronting social work, such as confidentiality, licensing, advocacy, witnessing.

741 Casework III: Mental Health and Mental Retarda-

tion. 3 credits. Application of principles of behavior and casework to problems of mental illness, emotional disorders, and mental retardation in children and adults. Theoretical approaches for understanding the relationship between differential diagnosis and selection of treatment interventions. Knowledge, principles, and skills of particular relevance for this system, including crisis intervention, milieu therapy, psychotropic drugs, social competency, behavior modification, and work with families. Impact of ethnicity and social class. Interdisciplinary functioning, collaboration, and interdigitization with traditional and emerging community resources. Pertinent research findings in human behavior and casework.

742 Group Therapy in Mental Health Settings. 3 credits. Prerequisite: SLW 645 or permission of instructor. This course is designed for students who are interested in developing an understanding of group therapy and its use in the mental health/mental retardation system. The course will concentrate on theoretical assumptions as well as experiential applications of group therapy principles as they are utilized in the MH/MR settings. Current research and reports from the literature, case records, and experiential exercises will be major teaching vehicles. Psycho-dynamic and ego-psychological theories will be the conceptual base for the course content.

744 Social Work Intervention with Children and Adolescents in Mental Health Settings. 3 credits. Prerequisites: SLW 645 and Method III or permission of instructor. This course is designed for students who are interested in developing further their knowledge, acumen, and techniques of social work intervention with children and adolescents in mental health and mental retardation settings.

748 Research in the Mental Health Mental Retardation System. 3 credits. Prerequisite: SLW 708. This course builds upon the foundation research course with primary emphasis on the application of research skills to MH/MR and substance abuse. Students will be expected to complete a research project and reports (both written and oral) based upon original research, previous research studies, or literature review.

749 Social Work Intervention in Substance Abuse. 3 credits. Exploration of major theoretical contributions to the field of substance abuse. Introduction and exploration of pharmacology of drugs and alcohol including stimulants, depressants, and opiates. Introduction and exploration of alcoholism from the disease concept as well as specific knowledge of substance abuse from the mental health point of view. The students shall become sensitized to controversial issues of substance abuse as well as their attitudes with emphasis of such on implications for practice. The students will be exposed to background information on history, theories, definitions, areas of controversy, research findings, and treatment modalities as related to substance abuse. Social work intervention will be emphasized. Case material, lectures, and group discussion will be major teaching vehicles.

750 Social Work Practice in School Setting. 3 credits. History of social work in schools. Issues in social work practice in public school settings, social influences of

school and community, alternatives to traditional education, rights of students, public personnel team approach, social worker's role in relation to other school disciplines.

752 Social Group Work III. 3 credits. The perception, evaluation, and interventive actions of the worker in relation to individual performance in the group. Focus on individual contributions to, and gains from the group process. Role of the worker in helping individuals use group relations to meet their common and differential needs in social functioning. *Behavioral Knowledge* practice in relation to social and psychological criteria for the individual social functioning in the group. Knowledge of member's needs and strengths in relation to target populations and racial and ethnic factors. The use of program content in social group work practice. Differential use of method in specific delivery systems is analyzed, and pertinent research findings in human behavior and group work incorporated.

753 Social Planning III. 3 credits. Continuation of SLW 635, involving the completion of a problem-solving assignment in planning related to the design, funding, and evaluation of a specialized human resources delivery system. Utilization of social policy analysis and research methodology in planning. Peer review and interchange of analyses. Differential use of method in specialized systems.

754 Administration III. 3 credits. Knowledge and skill in administrative supervision. Use of authority and power. Personnel evaluation. Manpower utilization. Staff development. Planning of training programs. The role of middle-management in human resources settings. Recruiting. Differential use of method in specific delivery systems.

758 Field Research. 3 credits. Development of a project which demonstrates skill in the review, critical analysis, and integration of research literature pertaining to a problem area related to the student's specialization in either a social work practice method and/or a service delivery system; and where appropriate, in the analysis and processing of data derived from research related to this specialization.

759 Field Integrating Seminar. 1 credit. Dynamic interaction of social policy, planning, and social work practice is examined through focus on field practicum activities. Study of the selection of methods of intervention for delivery of services within the system. Exchange of learning experiences about sectors of the system and linkages to other systems.

761 Advanced Casework Practice in Mental Health Settings. 3 credits. Prerequisites: SLW 651, 741 or permission of instructor. The course will deepen the students' theoretical base in terms of both casework and psychodynamic theory. Special attention to the identification of and utilization in treatment of ego functions, defense mechanisms, transference, and countertransference. It will reinforce and deepen concepts relative to intensive casework treatment, aid in the establishment of an identity as a clinical social worker, and help to define the parameters of clinical social work treatment.

762 Advanced Group Methods for Social Workers. 3

credits. Prerequisite: SLW 602 or permission of instructor. An advanced course in group methods for students whose primary method is social casework. Not for group work majors. Expansion and intensification of practice base provided in first course in social group work. Emphasis on achievement of greater sophistication and mastery in: group counseling methodology, role play and discussion leadership methods, evaluation of group and individual behavior, leader role in facilitating group development, and individual gain. Application of group work methods to family group and to various settings. The relation of group work to group psychotherapy and the sensitivity-encounter movement.

764 Profession of Social Work. 3 credits. Sociology of social work and its uniqueness as a profession. Changing purposes in response to changing social conditions and needs. Viability of its values and ethics within its philosophical base. Nature of professional identity and responsibility. Issues of accountability, professional commitment, social responsibility, racism, manpower, advocacy, and social change. Trends in education for social work.

765 Images of Man. 3 credits. Prerequisite: SLW 606, 615, 625, 635, 645, or permission of instructor. Exploration of major theoretical contributions to the study of the person and analysis of the relationship between these theoretical models and their application to treatment and their implications for the effectiveness of clinical intervention. Examples of surveyed theoretical models include such major figures as Freud, Adler, Rank, Sullivan, Bateson, The Third Force, and emerging Family Systems theorists. Emphasis on the life experiences of the theorist as it impinges upon and interacts with the cognitive approaches to the study of human personality. Integration of life experiences, theoretical models, and clinical intervention modes into an integrated approach to professional practice.

766 Perspectives on Aging. 3 credits. Identification, analysis, and evaluation affecting the aging, including analysis and evaluation of their social needs in relation to the environment and available resources. Emphasis on social isolation, community apathy, the dynamics of the composite population, and their effects on the elderly. Attention to the aged as a minority population.

767 Social Work Practice and Policy in Child Welfare. 3 credits. Prerequisites: Method III and Policy II or permission of instructor. Examination of types of problems which bring children and adolescents to social service settings. Study of specialized techniques and skills necessary for work with children, adolescents, and their families. Attention to bio-psycho-social developmental aspects of child-rearing and child-care services. Emphasis on laws, policies, and approaches governing child welfare services, including current policy and practice issues with attention to socio-economic, cultural, racial, and sex variables.

769 Women's Issues and Social Work Practice. 3 credits. New perspectives on women and their changing roles as these affect social work practice, direct and indirect ways sexist attitudes are acquired and conveyed, effects of changing female roles on human behavior theory and its application, development of new life

styles, social work theories and their relevance to today's world, current women's issues, and the social worker's role as counselor and advocate.

770 Practicum in Social Work Education. 3 credits. Prerequisites: SLW 777 and concurrent enrollment in SLW 778. Required for all students enrolled in the social work educator preparation program. Experiential learning in undergraduate education for social work with mentorship by a faculty member of the host college or university. Demands and responsibilities of the faculty office, including course preparation and teaching.

777 Seminar in Social Work Education I. 3 credits. Base course for the education concentration. Dimensions and demands of the faculty role in social work education. Systems of higher education. History and issues in social work education. Curriculum and course design, including development of objectives, pre-assessment, instructional methods, and evaluation.

778 Seminar in Social Work Education II. 3 credits. Continued focus on teaching methods and skills in relation to students' concurrent teaching experience. Faculty rights and responsibilities. Students' rights. Advising, field liaison, and field instruction roles. Accreditation of educational programs in social work.

780 Field Instruction III. 3 credits. Continuation of field instruction and learning as an accountable representative of a social agency with emphasis on the application of system specific knowledge and social work practice skill development. Emphasis on the integration of human behavior and research content for students with concentrations in social casework and social group work practice, and social policy and research content for students with concentrations in administration and social planning. Particular attention to application of knowledge and the development of skill necessary for professional social work practice in a secondary method.

790 Field Instruction IV. 3 credits. Continued integration and application of knowledge and learning required for professional social work practice in a specific delivery system. Emphasis on the refinement of methodological skills required for entry into professional practice.

791, 792, 793, 794 Independent Study. 1-4 credits. The student will be required to submit a proposal for investigating some area or problem in social work not ordinarily included in the regular social work curriculum. The results of the student's study will be presented in a report. Open with faculty approval. A maximum of four independent study courses may be included in a student's educational program.

797, 798, 799 Topical Seminar. 3 credits. A seminar on current, specialized areas of interest to social work. Content offered will be reflective of current issues in the field. Particular topics for study in any one semester will be determined jointly by the students and the faculty instructor.

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Esther Reilly, Field Instructor

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 Retardation
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Paul Finney, Field Instructor

Harry Hatter, Field Instructor

Catherine St. Clair, Field Instructor

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George Dawson, Administrator

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Marcia Harrigan, Field Instructor
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Iris Parham, Director

Student Development Counseling Center

John G. Corazzini, Director
Lee Poilch, Field Instructor

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Cassandra Dove, Field Instructor

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Gloria DeCuir, Field Instructor
Cynthia Smith, Field Instructor

Virginia Department of Public Health
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J. Kinley, Director
Raymond Perry, Field Instructor

Virginia Department of Public Welfare
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John Horner, Director of Social Services
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Linda Dressler, Field Instructor
William Perkins, Field Instructor
Linda Sawyers, Field Instructor

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Ted Eckhart, Field Instructor
Karen Muse, Field Instructor

Virginia Division for Children
(Richmond)

Valerie Emerson, Director
Peter Williams, Field Instructor

Virginia Heart Association of America
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John Kessler, Executive Vice-President
Theresa Knott, Field Instructor

Virginia Treatment Center for Children
(Richmond)

Harold Batchelder, Director of Social Services

Roslyn Ramsey, Field Instructor
Sue Stauffer, Field Instructor

Virginia Union University
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(Richmond)

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Western State Hospital
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Wanda Scott, Field Instructor

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Jane Reeves, Mentor

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Program and Mentor**

**Virginia Union University
(Richmond)**

**Christopher Melvin, Acting Director of Social
Work Program and Mentor**



PART XII—Interdisciplinary and Cooperatively Offered Graduate Degrees

MASTER OF INTERDISCIPLINARY STUDIES FACULTY

Nicholas A. Sharp

Director Non-Traditional Studies

Advisory Committee: Boyd Berry, Ph.D.; Marilyn
Biggerstaff, D.S.W.; Leonard Hippchen, Ph.D.;
Sharon Jones, Ph.D.; Otto Payton, Ph.D.

The Master of Interdisciplinary Studies (M.I.S.) Program offers students a coherent method of combining regular graduate studies in two or more selected disciplines. It is intended for students who wish to pursue a clearly defined, multi-disciplinary program rather than a professional curriculum or a specialization in a traditional discipline.

The M.I.S. Program is a cooperative venture between Virginia Commonwealth University and Virginia State University. Students admitted to the M.I.S. Program at VCU will complete a minimum of nine hours of course work in Virginia State University classes.

PROGRAM DESCRIPTION

Before entering the program, students identify two or more disciplines in which to pursue graduate courses. They then complete regular graduate courses within each of the chosen disciplines, plus additional electives in other fields. When regular course work is completed, they select a special project for additional study and complete three

to six credits of approved independent study, special topics, directed study, or thesis.

ADMINISTRATION

At Virginia Commonwealth University the M.I.S. Program is administered by the director, Non-Traditional Studies in the Division of Continuing Studies and Public Service. The director works closely with an advisory committee composed of graduate faculty from several disciplines.

ADMISSION

To be admitted to the M.I.S. Program at VCU, students must provide the following specific requirements in addition to the general requirements for graduate admissions stated earlier in this Bulletin:

- 1) an overall minimum 2.80 GPA (on a 4.0 scale) in the last sixty credits of undergraduate work or, in some cases, a minimum of 3.0 GPA in at least nine hours of graduate work;
- 2) three letters of reference attesting to the student's character and ability;
- 3) acceptable scores on the GRE aptitude tests;
- 4) a statement explaining (a) the kind of interdisciplinary curriculum desired and (b) specific areas of study intended.
- 5) two official transcripts, or the

equivalent, from each college or university attended.

Applications for admission can be obtained from the Graduate School Office or in the Office of Non-Traditional Studies, 901 West Franklin Street, Room 105, Richmond, VA 23284.

DEGREE REQUIREMENTS

In addition to the general requirements stated earlier in this bulletin, Master of Interdisciplinary Studies students must complete the following requirements:

- 1) a minimum total of 39 graduate semester credits, including (2) and (3) below;
- 2) 3-6 semester credits of approved directed research, independent study, special project, or thesis work;
- 3) at least nine and not more than 15 graduate level semester credits (not including requirement 2 above) in each of at least two disciplines. No more than 15 credits in any one discipline (exclusive of the directed research, independent study, special project, or thesis requirement) may be applied toward an M.I.S. degree. No more than nine credits in business and/or economics courses may be applied to an M.I.S. degree.

TRANSFER CREDITS

Up to six semester credits of graduate courses may be transferred into the M.I.S. Program from institutions other than Virginia Commonwealth University and Virginia State University. All such transfer credits, however, must conform to the regulations stated earlier in this bulletin.

Students in the M.I.S. Program must complete at least nine credits of their program at Virginia State University. They may take these courses either on the main campus of Virginia State University in Petersburg or at an off-campus location, including VCU courses taught in the Richmond area.

Ph.D. Program in Social Policy and Social Work

L. Diane Bernard
Director
Advisory Committee: McGrath, Rothenberg, Smith

Faculty: Adler, Bernard, Biggerstaff, Bloom, Carlton, Diana, Falck, Franks, Green, Henry, Honnold, Jennings, Johnson, Kolevzon, Nelson, Palen, Roth, Russell, Saunders, Schwartz, Schwartzbaum, Seaberg, Studer, Wells, Williams

The Ph.D. program in social policy and social work is administered jointly by the School of Social Work and the School of Arts and Sciences. The teaching and research faculty in the Ph.D. program are drawn primarily from the faculties of the two cooperating units.

The goals of the program are to prepare persons for the tasks of developing, implementing, and evaluating social programs and policies, and to prepare social work educators well grounded in research, theory, and teaching methods. Graduates are expected to assume positions in educational institutions and public and private organizations dealing with such important areas of social concern as health, mental health, aging, child welfare, and criminal justice.

Areas of specialization within the program include social policy analysis, applied social research, program administration, and social work education. Each of the participating disciplines contributes to the aim of producing graduates who have the ability to integrate social and behavioral theories and research with social welfare policies, systems, and practice.

REQUIREMENTS FOR ADMISSION

Applicants to the program must have earned a master's degree in social work, sociology, or a related discipline. In addition, applicants who wish to specialize in clinical social work education must have had the equivalent of at least three years of clinical social work experience. The Graduate Record Examinations Aptitude Test is required of all applicants.

Applicants for full- and part-time study will be judged by the same criteria. While it is possible to combine a limited amount of course work with outside employment, students will have to commit themselves to full-time study for at least one year before beginning work on a dissertation.

Application forms may be obtained from the Director, Doctoral Program in Social Policy and Social Work, Raleigh Building, 1001 West Franklin Street, Virginia Com-

monwealth University, Richmond, VA 23284. The application forms will indicate to whom supporting information, such as letters of recommendation, transcripts, and GRE test scores, should be sent.

ASSISTANTSHIPS AND FELLOWSHIPS

Information on research and teaching assistantships and doctoral stipends available to students in this program can be obtained from the program director.

REQUIREMENTS FOR THE PH.D. DEGREE

A minimum of 36 credit hours of course work beyond the master's degree plus a minimum of 18 credit hours of dissertation research is required. Up to six credit hours may be granted for courses completed in a Ph.D. program at another university. There is no foreign language requirement. Other requirements are detailed below.

1. **Core Curriculum.** The core curriculum which is required of all students consists of the following courses (18 credits):

SPW 801—802 Research Methods I and II

SPW 806 Social Theory and Public Policy

SPW 808 Behavioral Science Theory for Social Work Practice

SPW 811 Origin and Development of Social Welfare Policy

SPW 815 Social Work Practice Theory

A graduate level course in social statistics, such as SOC 608, is required. It may be taken concurrently with SPW 801, but will not be counted toward the 36 credits required for the degree.

Students are expected to complete the core curriculum before moving on to more specialized course work. Full-time students would ordinarily complete the core in their first year.

2. **Concentration.** The concentration consists of at least 18 hours of specialized courses designed to prepare the student for a career in one of the four specialty areas (social policy analysis, applied social research, program administration, or social work education). In collaboration with a faculty advisor, each student will plan a program of study to gain intensive knowledge of at least

one problem area. In addition to seminars and courses offered by the program, students are encouraged to enroll in appropriate courses in sociology, social work, and other schools and departments of the university, with approval of their advisor.

3. **Internship and Practicum.** Students without formal experience in human service programs will be required to complete an internship under faculty supervision in an appropriate agency setting. Students in the social work education concentration will be expected to complete a teaching practicum. Those in social work education may also be required to complete an individually designed practicum.
4. **Directed Research.** Students will be expected to participate in applied research projects under faculty supervision before they start work on their dissertations. These projects will provide students with practical experience in research on topics related to their areas of interest.
5. **Admission to Candidacy.** A student is admitted to candidacy when his or her Graduate Advisory Committee certifies that all pre-dissertation degree requirements, including comprehensive examinations, have been satisfied, and that the student is prepared to proceed to the dissertation.
6. **Dissertation.** After admission to candidacy a student will proceed to propose, complete, and defend a dissertation. Students are expected to remain continuously enrolled in the program between the comprehensive examination and completion of the dissertation requirement. The dissertation must represent independent research and should contain original material, results, and interpretations.

GRADUATE COURSES IN SOCIAL POLICY AND SOCIAL WORK (SPW)

801 Research Methods I. 3 lecture hours. 3 credits. Prerequisite: graduate standing in social policy and social work or permission of the program. Concentrated study of the principles of research design in experimental and non-experimental social research. The logic of science, research design, sampling, and measurement

will be considered in the context of applied research settings.

802 Research Methods II. Semester course; 3 lecture hours. 3 credits. Prerequisite: SPW 801. Study of principles and problems in the implementation of social research designs. Data collection, measurement issues, and analysis procedures will be considered in a variety of research contexts.

806 Social Theory and Public Policy. Semester course; 3 lecture hours. 3 credits. Prerequisite: graduate standing in social policy and social work or permission of the program. An examination of the theoretical component of public policy on the macro and micro levels. The structure of theoretical arguments is examined, and prominent theoretical perspectives and developments are reviewed.

808 Behavioral Science Theory for Social Work Practice. Semester course; 3 lecture hours. 3 credits. Prerequisite: graduate standing in social policy and social work or permission of the program. This course will survey the major theoretical approaches which examine the psychological determinants of behavior. There will be an emphasis on those approaches which have particular relevance for direct social work practice, that is work with individuals, families, and small groups.

811 Origin and Development of Social Welfare Policy. Semester course; 3 lecture hours. 3 credits. Prerequisite: graduate standing in social policy and social work or permission of the program. A conceptual approach to the development of social welfare policy, viewed from sociological, historical, and evaluative contexts.

815 Social Work Practice Theory. Semester course; 3 lecture hours. 3 credits. Prerequisites: graduate standing in social policy and social work or permission of the program. This course will integrate social and behavioral theories with the variety of practice modalities utilized in social work practice with individuals, families, and small groups.

820 Topical Seminar. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Study of the current state of knowledge and research within a specialized area of concern to social policy and social work. May be repeated for credit.

830 Methodological Issues in Social Policy Research. Semester course; 3 seminar hours. 3 credits. Prerequisite: SPW 801 or permission of instructor. Examination of several major social research studies, with special attention to their design and associated data analysis techniques. The interactions between statistical methodology and economic and political constraints in the conduct of social policy research will be emphasized.

831 Child Welfare Policy and Research. Spring semester; 3 seminar hours. 3 credits. Prerequisite: SPW 801 and SPW 811 or permission of instructor. Examination of a wide range of federal, state, and local policy issues related to the child welfare area of human services.

832 Social Psychology of Organizations. Spring Semester; 3 lecture hours. 3 credits. An examination of social psychological processes and their effects on the behavior, attitudes, and social relations of individuals

operating within a human service organizational context.

833 Seminar in Energy Policy Analysis. Semester course; 3 lecture hours. 3 credits. Prerequisite: course work in a natural or physical science. A study of the formulation and implementation of energy policy in its social context. Scientific aspects of energy distribution and production will be reviewed, and interrelationships among social structure and energy use patterns will be examined in comparative perspective. Problems in the development of energy policies in the United States and social implications of policy alternatives will be considered.

880 Independent Study. Semester course; 1, 2, or 3 credits. May be repeated for a maximum of 6 credits, which count toward the 36 required credits. May then be taken for an additional 1-12 credits to accommodate the need for continuous enrollment required of all students between completion of required course work and passage of the comprehensive examinations. Prerequisite: permission of the program. Independent reading and study in selected areas under the supervision of a member of the faculty.

890 Directed Research. Semester course 1-6 credits. May be repeated for credit. Pre-dissertation research project under faculty supervision.

899 Dissertation Research. Semester course; 1-18 credits. May be repeated for credit. Prerequisite: successful completion of comprehensive examinations. Students are required to complete 18 credit hours. May be taken for additional credits until dissertation is formally accepted.

Department of English and Division of Teacher Education

ENGLISH FACULTY

Professors: Armour; Coppedge; Duke, M; Lyles; Pendleton; Reynolds

Emeriti Professors: Brown; Henry; Whitesell

Associate Professors: Beacham; Berry; Dance; Duke, E.; Griffin; Longest (Acting Chairman); Morse; Priebe; Scura

Assistant Professors: Booth, Fine; Gallant; Hanson; Harkness; Hedgpeeth (Afro-American Studies); Kinney; Laban; Mangum; Miller; Priebe; Sange; Sharp; Woodlief

TEACHER EDUCATION FACULTY

Professor: Briggs

Associate Professors: Boraks; Duncan, P. (Division Head); McLeod; Tarter

Assistant Professors: Baker; Brittain; Goggin; Richardson

The Department of English in conjunction with the Division of Teacher Education offers a program leading to a Master of Arts degree in English/English education with four areas of emphasis or concentration.

The program provides maximum flexibility by allowing each student, in consultation with his graduate committee, to select the concentration which will best develop his competence in those areas most relevant to his scholarly and professional objectives.

The English/English education program consists of a minimum of 30-33 semester credits. After these credits have been attained, the student shall be examined over his courses and research as the Graduate Committee recommends. The student may also wish to present a thesis or project, credit for which shall be determined by the Graduate Committee.

In addition to the general requirements for admission to graduate programs in the School of Arts and Sciences and the School of Education, the following requirements, established by the English/English Education Graduate Committee, represent the minimum acceptable standards for admission:

1. A baccalaureate degree in an area appropriate to the degree program;
2. A grade point average that is indicative of the applicant's ability to pursue successfully a graduate degree;
3. Three recommendations from persons who are qualified to give information concerning the applicant's probable success in graduate school; and
4. Completion of the Graduate Record Examinations.

Programs leading to the Master of Arts degree in English/English education:

1. **COMMUNITY COLLEGE TEACHING**—designed for the candidate who is seeking or continuing a career in the community colleges.
2. **INTERDISCIPLINARY HUMANITIES**—designed for the candidate who is seeking a broad knowledge of the literature of several cultures. (For courses available in this option see the director of graduate studies in English.)
3. **ENGLISH EDUCATION**—designed for the candidate who is teaching, or who plans to teach, in middle and secondary schools. Candidates must meet certification regulations prior to graduation.
4. **LITERATURE OR LITERATURE**

AND LINGUISTICS—designed for the candidate who desires intensive work in English or American literature or linguistics beyond the bachelor's level, or for the candidate who plans to pursue the Ph.D. degree in any of these fields.

GRADUATE COURSES IN ENGLISH (ENG)

501 Shakespeare. Semester course; 3 lecture hours. 3 credits. A study of representative comedies, histories, and tragedies.

502 Chaucer. Semester course; 3 lecture hours. 3 credits. A study of *The Canterbury Tales* and *Troilus and Criseyde*, with some attention to the lesser works.

503 Milton. Semester course; 3 lecture hours. 3 credits. A study of *Paradise Lost*, *Paradise Regained*, and *Samson Agonistes*, with some attention to the minor poems and selected prose.

507 Medieval Epic and Romance. Semester course; 3 lecture hours. 3 credits. A study of the vernacular epic and the romance in England and on the continent prior to 1500.

514 The American Novel. Semester course; 3 lecture hours. 3 credits. A study of the American novel from 1789 to the present, with particular emphasis on Cooper, Hawthorne, Melville, Twain, Howells, James, Dreiser, Fitzgerald, Hemingway, and Faulkner.

515 English Novel, Eighteenth Century. Semester course; 3 lecture hours. 3 credits. A study of the English novel from its beginnings through Jane Austen.

516 English Novel, Nineteenth Century. Semester course; 3 lecture hours. 3 credits. A study of the English novel from Scott through Hardy.

517/ARH 522 Art, Music, and Literature of Restoration and Eighteenth Century England. Semester course; 3 lecture hours. 3 credits. Prerequisites: senior standing and six credits in literature and/or six credits in art history. An examination of the characteristics and interrelationships of certain selected works of art, literature, and music in Restoration and Hanoverian England. Dryden, Purcell, Wren, Pope, Handel, Burlington, Hogarth, and Walpole are among the major figures to be considered. Primary consideration is given to the visual arts and literature.

521-522 Comparative Literature. Semester courses; 3 lecture hours. 3-3 credits. A comparative study of the forms and contents of the literature of Western civilization in translation with some attention to the dominant influence on and interrelationships between English and continental literatures. First semester: ancient, medieval, and renaissance. Second semester: neo-classical, romantic, and modern.

523 English Drama, 900-1642. Semester course; 3 lecture hours. 3 credits. A study of the origins of the English drama and its development until the closing of the theaters in 1642, exclusive of Shakespeare.

524 English Drama, 1660-1800. Semester course; 3 lecture hours. 3 credits. A study of the English drama of the Restoration and eighteenth century from Dryden and Congreve to Sheridan and Goldsmith.

531 Literary Criticism. Semester course; 3 lecture hours. 3 credits. A study of the fundamental concepts involved in the practice of criticism. Some attention is given to the historical development of criticism, but the primary focus is on its methods and aims.

549 Introduction to Linguistics. Semester course; 3 lecture hours. 3 credits. An introduction to methods of language analysis, emphasizing the study of sounds and sound patterns, and units of meaning and their arrangements.

551 History of the English Language. Semester course; 3 lecture hours. 3 credits. The historical development of the English language; etymology, orthography, and semantics.

553 Studies in Linguistics. Semester course; 3 lecture hours. 3 credits. A general introduction to one area of linguistic study, such as pronunciation, grammar, stylistics, dialects, usage standards, lexicography, onomastics, or semantics. May be repeated for credit.

561 Medieval Literature. Semester course; 3 lecture hours. 3 credits. A survey of major works of British literature in the Middle Ages with some attention to continental influences upon both Old English and Middle English works. The study will include poetry, prose, and drama from *Beowulf* to *Morte d'Arthur*. Some reading in modern English translation, some in Middle English.

563 Renaissance Literature. Semester course; 3 lecture hours. 3 credits. A survey of British poetry, prose, and drama written in the sixteenth and seventeenth centuries. Attention will be divided among major figures—such as More, Marlowe, Spenser, Shakespeare, Donne, Jonson, Milton, and minor authors.

565 Eighteenth Century and Romantic British Literature. Semester course; 3 lecture hours. 3 credits. A survey of British literature in the eighteenth and early nineteenth centuries. Readings of poetry, drama, and prose in the successive eras of Pope, Johnson, Burns, and Wordsworth.

567 Victorian and Modern British Literature. Semester course; 3 lecture hours. 3 credits. A survey of the literature of Victorian and twentieth century Britain. Major figures such as Carlyle, Tennyson, Browning, Arnold, Dickens, Eliot, Newman, Conrad, Joyce, Yeats, Shaw, and Auden will be the main focus of the course. Minor figures, especially as they represent literary movements or transitions in style or subject, will also be considered.

571 American Literature I. Semester course; 3 lecture hours. 3 credits. A survey of the literature of the United States from the Puritan period through the Romantic period.

572 American Literature II. Semester course; 3 lecture hours. 3 credits. A survey of the literature of the United States from the Age of Realism through the Contemporary period.

600 Advanced Writing and Research Reporting. Semester course; 3 workshop hours. 3 credits. The study and practice of advanced academic and professional writing and research reporting techniques. The course will focus on preparation of such projects as technical reports, theses and dissertations, grant proposals, and articles for publication in either humanistic or scientific disciplines. The course will be addressed to the specific fields of the students enrolled.

605 Introduction to Literary Scholarship. Semester course; 3 lecture hours. 3 credits. An introduction to the forms and practice of modern literary research and criticism. Attention will be paid to bibliographical and textual criticism and to the most commonly employed approaches of literary historians and critics in English and American literature.

611 The Writer in His Own Time. Semester course; 3 lecture hours. 3 credits. A study of the biographical, intellectual, and sociological influences on a selected British or American writer and his work. The course is designed to discover how the external factors of a writer's life are absorbed and transmuted into art by drawing upon the resources of other disciplines when relevant. May be repeated for credit.

614 Major Works of Literature. Semester course; 3 lecture hours. 3 credits. A study of the aesthetic backgrounds, composition, and continuing interpretation of a selected work of English or American literature generally regarded as a classic. The intent of the course is to comprehend as fully as possible the literary work of art through studying the aesthetic influences upon it and by applying various critical approaches to it. May be repeated for credit.

617 Major Literary Modes. Semester course; 3 lecture hours. 3 credits. A study, through the analysis of selected literary works of several genres, of modes which are useful to understand and judge literature. The study may draw upon the literature of many nations in English translation. The following modes are examples of those which may be studied: the heroic mode, the tragic mode, the comic mode, the ironic mode. May be repeated for credit.

620 Patterns in Literary Thought. Semester course; 3 lecture hours. 3 credits. A study of significant recurring intellectual attitudes and concepts which have found expression in literature and shaped the development of literary style and thought. The study will draw upon the literature of many nations in English translation. May be repeated for credit.

624 Literature in Society. Semester course; 3 lecture hours. 3 credits. A study of the ways in which literature often reflects, supports, and influences political and philosophical movements in society. Creative literature—primarily English and American—will be studied in terms of its response to or effect upon social issues. May be repeated for credit.

627 Literary Genre. Semester course; 3 lecture hours. 3 credits. A study of a literary genre, such as poetry, fiction, or drama. May be repeated for credit.

651 Topics in Teaching Composition. Semester course; 1-3 lecture hours. 1-3 credits. A course for the examina-

254 Interdisciplinary and Cooperatively Offered Graduate Degrees

tion of a specialized issue, topic, or problem in teaching composition.

661 Themes in Interdisciplinary Studies. Semester course; 3 lecture hours. 3 credits. A study in depth of a theme, topic, or concept involving two or more disciplines. May be repeated for credit.

697 Directed Independent Study. 1-3 hours. Variable credit; maximum six credits. To be offered each semester. Prerequisite: permission from department chairman. For students in English/English education to pursue, in depth, a particular problem or topic about which an interest or talent has been demonstrated.

700-701 Thesis. Continuous course. 1-3 credits per course. Credits and hours to be arranged. Preparation of a thesis or project based on independent research or study and supervised by a graduate advisor.

GRADUATE COURSES IN ENGLISH EDUCATION (EDU) For descriptions of these and other appropriate education courses see page 193.

EDU 533. Literature for Adolescents.

EDU 549. Developmental Reading.

EDU 604. Psycholinguistics and the Language Arts Curriculum.

EDU 627. Teaching Reading to Adults.

EDU 681. Investigations and Trends in Teaching—English.

EDU 700. Supervised Internship—English.

CROSS LISTED COURSES IN ENGLISH/EDUCATION (ENG/EDU)

522 Teaching English As a Foreign Language. Semester course; 3 lecture hours. 3 credits. To provide students who plan to teach English to people whose native language is not English with the techniques used in teaching foreign languages. Contrastive analysis of morphology, phonology, and syntax is used to isolate areas of difficulty in learning English.

632 Applied English Linguistics. Semester course; 3 lecture hours. 3 credits. Application of linguistics theories and methods to selected teaching problems, such as teaching English as a second or foreign language, or teaching standard English to students who speak different dialects. May be repeated for credit.

634-635 Seminar and Internship in the Community College. Continuous course; 2 lecture and 4 laboratory hours. 3-3 credits. Observation and practice of instructional techniques in English courses in the community college on all levels from developmental studies through college transfer courses, culminating in the student's acceptance of full responsibility for teaching a composition or reading course under the general supervision of a community college division chairman.

636 Teaching of Communication. Semester course; 3 lecture hours. 3 credits. A study of the traditional and modern instructional strategies for teaching various forms of communication but with primary emphasis on the teaching of composition and secondary emphasis on

reading and speech. The validity of strategies will be tested in the student's own writing.

637 Mass Media and the Teaching of English. Semester course; 3 lecture hours. 3 credits. A study of the use of the mass media in the English classroom. Emphasis will be on teaching methods designed to take advantage of the student's awareness of the media. Special attention will be given to television and film.

643 Teaching Basic Writing Skills. Semester course; 3 lecture hours. 3 credits. Emphasis on developing the student's ability to teach fundamental writing skills, including such topics as diagnosis of writing problems, strategies for correcting problems, and methods for evaluating progress.

Master of Science Program in Gerontology

FACULTY

Associate Professor: Harkins, S.

Assistant Professors: Parham (Chairman); Egelhoff; Osgood; Romaniuk, M.

Joint Appointment Faculty: Arling; Harkins, E.; McAuley; Modrow; Romaniuk J.; Williams

The gerontology curriculum is a multidisciplinary program established in 1976 which offers the Master of Science degree. The program is situated in the Office of Research and Graduate Affairs to utilize professional assistance from departments on both campuses.

The major purpose of the program is three-fold: (1) to train qualified professionals to work in administrative, planning, service delivery, and instructional/staff development positions in programs and services for the elderly at the national, state, and local levels; (2) to provide an opportunity for those studying in other disciplines, and whose work will encompass service to the aged, to integrate their own training with a comprehensive knowledge/understanding of the aging process; (3) to stimulate the design and execution of gerontological research across multiple disciplines.

There are three concentration areas in gerontology: administration, adult services, and education. Detailed elaboration of the concentration area courses can be obtained from the Graduate Student Handbook of the gerontology program.

The 42-hour degree program includes 18-21 hours of courses in gerontology, 18 hours in the chosen concentration area, and six credits for thesis (or a thesis option.).

ADMISSION POLICY

The program will be open to qualified students who have earned a baccalaureate degree from an accredited college or university or the equivalent, maintained a minimum grade-point average of 2.8 and have satisfactory scores on the Graduate Record Examinations. A successful work experience may strengthen the admission credentials of applicants with marginal records.

Because of the diversity of undergraduate majors, the candidate for the gerontology program must present evidence of successful completion of *undergraduate* courses in the following areas:

1. Biological Science—minimum of six semester hours
2. Psychology—minimum of three semester hours
3. Sociology/Anthropology-Social Work—minimum of three semester hours
4. Statistics, Research Methods, or equivalent—minimum of three semester hours (topics covered in this undergraduate course should be equivalent to those outlined for Statistics 213, 214 in the *Academic Campus Undergraduate Bulletin*).

Candidates for admission who do not meet these requirements will be expected to complete the required undergraduate course work or to pass challenging examinations by the end of the first year.

REQUIREMENTS AND PROCEDURES FOR ADMISSION

A. The applicant is required to make application on approved application forms in duplicate.

B. Three letters of reference from those persons qualified to give information concerning the applicant's promise of success in graduate study are required, on official reference forms. At least two should be from academic persons, i.e., teacher, advisor.

C. Two copies of the official transcripts (with the school seal affixed) from the registrar, not the applicant, of all colleges or universities attended must be submitted.

D. The applicant must submit a letter stating reasons for wanting to enter graduate study in gerontology at Virginia Commonwealth University.

E. A non-refundable application fee of \$10 in the form of check or money order, payable to Virginia Commonwealth University, must be submitted.

F. Applicants must submit the results of the Graduate Record Examinations. Application forms for the examination are available through this department upon request, or may be obtained from the Educational Testing Service, Box 955, Princeton, NJ 08540.

NOTE: There are specific deadlines for registration for the examination.

G. Applications for admission may be submitted at any time. The latest dates for submitting application materials are July 15 to be considered for the following September, and November 15 for the following January. Applicants who submit materials by March 1 will be notified of the decision of the Admissions Committee by mid-April.

. Send all application materials to the Office of Graduate Studies, Box 568, MCV Station, Richmond, VA 23298.

SEMESTER HOUR REQUIREMENTS

A minimum of 42 graduate credit hours will be required for the Master of Science degree in gerontology. However, many graduate students have taken additional courses beyond the 42-hour requirement to meet individual career objectives. The core courses in the program constitute 21 graduate hours. Remaining credits are to be earned through course clusters in concentration areas related to the student's specific professional career goals.

TRANSFER AND WAIVER OF COURSE CREDITS

Students who have completed graduate work in other graduate departments, whether at Virginia Commonwealth University or another university, may transfer no more than 12 credit hours work at "B" level if such work is considered relevant by the Program Admissions Committee. Also, a maximum of six hours of graduate credits accrued at a "B" level as a "special student" at Virginia Commonwealth University may be applied to the degree upon recommendation of the Program Admissions Committee.

Transfer credits for graduate work at

other institutions will be evaluated at the time of full admission to the program. To have credits transferred, the student is required to prepare a synopsis of each graduate course that is to be transferred for review by the faculty. Each synopsis will include the name of texts used in the course and a specific listing of topics and material covered. Students may also apply for waivers of specific requirements in a similar manner.

ADVISING

Each student will be assigned a faculty advisor upon full admission by the Program Admissions Committee.

The academic advisor functions as a consultant to the student planning his/her academic program.

MASTER'S THESIS

1. The master's thesis is an option for students entering with a bachelor's degree. Students may elect either a six-credit thesis or 6 hours of graduate course work to meet the 42-hour requirement. Thesis credit shall be six semester hours.

2. Each student shall arrange with a member of the Department of Gerontology to serve as the chairman of his/her thesis committee. With the chairman's approval, at least two additional committee members will be selected. At least two of the members must be from the Department of Gerontology.

The thesis chairman will monitor and advise during thesis development. The student will take the major role in actual data collection. The thesis should be a publishable piece of research that makes some contribution to the field of gerontology.

Written Comprehensive Examination

A written comprehensive examination is required after completion of all required course work and before the student begins a practicum (field experience).

The comprehensive examination will be scheduled three times a year (early in the fall and spring semester and once in the summer). It is a responsibility of the student to announce intentions to take comprehensives prior to the beginning of the semester in which they wish to take the examination

(five weeks prior to exam date). The student's intention will be communicated to the faculty in the form of a letter to the chairman of the program. The faculty will respond by providing the student with a reading list (to be provided one month prior to the exam date) which will in part, form the content area comprising the examination. Questions to be asked on the written examination will be formulated from the content areas of the core gerontology courses and the speciality track chosen by the student.

Practicum (field experience)

Field experiences, with the supervision arranged by the director and program faculty constitute an additional requirement. These experiences are intended to develop practical understanding, skills, attitudes, and values essential for working with the aged in a variety of settings.

The practicum will involve a full-time (40 hour week) placement for one full semester. Each student must submit a practicum proposal (prepared with the assistance of the advisor) which must be approved prior to beginning the practicum. During this time the student is required to keep a daily log of his/her activities to be incorporated in a final report at the end of the practicum.

The student's supervisor submits a mid-point progress report and a final evaluation of the student's performance. For those already employed in the field of gerontology, an approved special project may be substituted for the field experience placement. Those students who are working full-time in a job outside the field of aging may also submit a proposal for review which may allow for their continued employment, yet fulfilling this important requirement.

GRADUATE COURSES IN GERONTOLOGY (GTY)

All students must successfully complete the following 21 hours of core courses:

601E Biological and Physiological Aging. 3 credits. Biological theories of aging: cellular, physical, systemic, and sensory change; health maintenance.

602E Psychology of Aging. 3 credits. Psychological adjustment in old age; special emphasis on personality, cognitive, and emotional development; life-crises associated with the aging process. (Students must com-

plete Social Sciences Research Methods before taking this course).

603E Social Science Research Methods Applied to Gerontology. 3 credits. Application of social science methods and techniques to study of the aged: data sources, types of problems encountered; data analysis; research reporting; use of research findings.

604E Problems, Issues, and Trends in Gerontology. 3 credits. Application of knowledge in analysis of problems confronting aged persons; social issues and legislation; service delivery programs; current trends in gerontology.

605E Social Gerontology. 3 credits. This course will focus on the socio-psychological and sociological aspects of aging. Various socio-psychological and social theories of aging will be discussed. The course will provide a broad overview of several general topics such as the demography of aging, politics and economics of aging, and cross-cultural aspects of aging. The course will offer an in-depth analysis of particular role changes which accompany aging (i.e. retirement, widowhood, institutionalized).

606E Aging and Human Values. 3 credits. Identification and analysis of value systems of the aged, exploration of religious beliefs; death and dying; moral, ethical and legal rights; human values and dignity.

Elective Courses

610E Introduction to Gerontology. 3 credits. A survey of the field of aging with attention to physical, psychological, social, economic, and cultural ramifications of age.

612 Recreation, Leisure, and Aging. 3 credits. An analysis of the quality and quantity of leisure in maximizing the quality of life for the older person. Focus will be placed on: concepts of leisure; the interrelationship of leisure service delivery systems and other supportive services; the meaning of leisure to the elderly in the community and within institutional settings; and innovative programming.

615E Psychological Assessment and Treatment of the Older Adult I. 3 credits. A didactic course covering areas related to clinical aging such as mental health service utilization by the elderly; normal psychological changes in late life and their influences on psychological functioning; psychological aspects of health, illness, and disability in old age; clinical assessment of the older adult; intervention techniques; and problems related to institutionalization.

616E Maintenance and Rehabilitation in Late Life. 3 credits. Considers practical approaches to maintaining function and use of daily activities, simple procedures, and techniques in counteracting common physical changes prevalent in later life.

690E Independent Studies. 1-3 credits. Directed independent study in depth of a particular problem or topic in gerontology about which an interest or talent has been demonstrated.

699E Topical Seminar. 3 credits. Seminars on specialized areas of gerontological interest. Examples of

special topic courses taught in previous years: •Aging and the Black Community, GTY 699E, 3 credits. Systematic overview of patterns of aging among blacks; economics, family patterns, residential environment. •Nutrition and Aging, GTY 699E, 3 credits. Focus on nutritional problems of the elderly, physiological and psychological effects of diet modifications. •Psychophysiology and Neurobiology of Aging, 3 credits. Focuses on age differences and changes in anatomy and physiology of the autonomic and central nervous systems. •Psychology of Health and Health Care, 3 credits. Focuses on factors in the etiology, course and treatment of illness; patient/practitioner relationship; patient compliance, psychosocial issues in terminal care.

699E Community/Community Services and the Aged. 3 credits. The first part of the course will provide a conceptual/theoretical overview of community focusing on the ecological, psychological, and social dimensions of community. The community study methodology will be discussed in detail. The latter part of the course will focus on communities of the aged including for example, a look at HUD funded housing for the elderly, age-segregated retirement communities, and other environments designed specifically for the elderly. Various community services for the aged will be discussed in the course as well.

699E Psychological Assessment and Treatment of the Older Adult II. 3 credits. A combination didactic and skills training course; review of major treatment strategies and techniques for utilization with the older adult client with emphasis on group, individual, and paraprofessional delivery system; evaluation of crisis intervention and consultation team approaches; lectures, demonstrations, and classroom practice of actual treatment techniques.

699E Practicum in Clinical Geropsychology. 3 credits. An initial practicum geared as an entry to the team practicum experience; focus on familiarizing the student with mental health service delivery systems for the elderly in the Richmond community; rotation through a limited number of facilities such as nursing homes, retirement centers, nutrition sites, emergency hotline services for the elderly, and various agencies involved in de-institutionalization; possible extended placement in a particular facility.

701E/702E Thesis. 3-6 credits. A research study of a topic or problem approved by the thesis committee and completed in accordance with the acceptable standards for thesis writing.

Master of Science Program in Geriatric Physical Therapy

Geriatric Physical Therapy is a joint program offered by the Department of Physical Therapy and the Master of Science program in Gerontology culminating in a Master of Science degree in Physical Therapy with a specialty in Geriatric Physical Therapy.

FACULTY

The combined faculties of physical therapy and gerontology.

ADMISSIONS AND GENERAL ACADEMIC POLICY

See Department of Physical Therapy.

PURPOSE

Graduates may prepare for positions in teaching, administration, clinical practice, or research related to the problems of the aged population, including positions as chief physical therapists in any kind of facility dealing with geriatric patients, where they could provide leadership in service, research, and teaching.

CURRICULUM

| Core Curriculum: | Credits |
|--|---------|
| PHT 590 Physical Therapy Seminar (2 semesters) | 2 |
| PHT 591 Research Process | 2 |
| GTY 601E Biological and Physiological Aging | 3 |
| GTY 602E Psychological Aspects of Aging | 3 |
| GTY 605E Social Gerontology | 3 |
| BIS 521 Statistician Principles or BIS 511-12 | 3-6 |
| PHT 520 Clinical Specialty Practicum | 3-9 |
| PHT 690 Research in Physical Therapy | 9-12 |
| | 28-40 |

| Electives: | Credits |
|--|---------|
| GTY 604E Problems, Issues, and Trends in Gerontology | 3 |
| GTY 606E Aging and Human Values | 3 |
| GTY 690E Independent Study | 1-3 |
| PHT 501 Electromyographic Kinesiology | 3 |
| PHT 502 Biomechanics | 3 |
| PHT 505 Pathokinesiology *** | 4 |
| PHT 506 Therapeutic Kinesiology *** | 3 |
| PHT 540 Special Topics in Physical Therapy | 1-4 |
| AHP 573 Teaching in Health Professional Schools | 3 |
| AHP 574 Health Teaching Practicum | 1-6 |
| AHP 582 Supervision in Allied Health Professions | 3 |
| AHP 583 Administrative and Supervisory Practicum | 1-9 |
| HCM 510 Health Care Organization and Aging | 3 |
| *** Highly recommended | |
| Minimum credits for graduation: 48 credits | |

The clinical practicum (PHT 520), the thesis research (PHT 690) and, if elected, the administrative and supervisory practicum (AHP 583) will be done at the Chesterfield County Nursing Home. The teaching practicum (AHP 574), if elected, will be done in the undergraduate physical therapy curriculum, both on campus and at the nursing

home. All practica will be supervised by academic faculty.

The thesis committee will include, as a minimum, two physical therapy faculty and one gerontology faculty. Basic science, medical, or other faculty may be added when warranted by the thesis topic.

The student will meet all general requirements for graduation specified in the *Graduate Bulletin* of Virginia Commonwealth University and the School of Allied Health Professions.

Certificate Program in Aging Studies

The certificate in aging studies program was designed primarily to meet the needs of persons who are already working with the elderly but who have no academic training in gerontology. The certificate program provides the student with a comprehensive overview of gerontology and stimulates the application of gerontological research to problems in applied areas.

The certificate program is also a minor option for graduate students in other disciplines.

REQUIREMENTS FOR ADMISSION

A candidate for admission into the Certificate Programs in Aging Studies would offer the following credentials:

A baccalaureate degree from an accredited college or university or its equivalent.

An acceptable grade-point average.

PROGRAM OF STUDIES

The certificate program of studies would require successful completion of 17 credit hours of work comprised of the following courses now offered in the gerontology graduate curriculum:

1. The Biology of Aging, Psychology of Aging, and Social Gerontology will form the basic core of the certificate program.
2. Following the completion of these three core courses, the student may choose two elective gerontology courses after consultation with his/her faculty advisor. The advisor would counsel the student as to the courses which would

best suit his/her educational training needs. The student may choose from: Aging and Human Values; Topical Seminar; Independent Studies; Problems, Issues, and Trends in Gerontology; Recreation, Leisure, and Aging.

3. In addition to the completion of these prescribed courses, each candidate for a Certificate in Aging Studies would be required to satisfactorily complete a project in gerontology on a subject approved by the faculty. This project may be a comprehensive literature review, a research project, and training or demonstration project. Students would register for a two-credit course in Independent Studies (GTY 690E).

AWARDING OF THE CERTIFICATE

Upon successful completion of the total program here described, as well as, maintaining a 3.0 average, the student would be awarded a Certificate in Aging Studies.

RELATIONSHIP TO THE M.S. PROGRAM IN GERONTOLOGY

The Certificate in Aging Studies program is designed to meet the needs of those individuals who desire graduate training in gerontology but who do not desire the full completion of the master's program. This program is complementary to the M.S. program. If a certificate student desires to enter the M.S. program he or she must make formal application and abide by the admission requirements outlined in this bulletin.

Graduate Programs in Statistical Areas

See degree programs or tracks in statistics in the following departments or programs:

Biostatistics (M.S., Ph.D.)—School of Basic Sciences

Master of Science Degree in Business (concentration in Quantitative Methods)—School of Business

Mathematical Sciences (M.S. with specialization in statistics or statistical computing)—School of Arts and Sciences

GRADUATE COURSES IN STATISTICS

Biostatistics (BIS)

BIS 511-512 Methods of Statistical Analysis

BIS 515

Biostatistical Data Management

BIS 516

Biostatistical Consulting

BIS 521

Statistical Principles of Health Care Information

BIS 524

Statistical Computing

BIS 537

Sampling

BIS 538

Epidemiology and Population Research

BIS 546

Linear Statistical Models

BIS 547

Nonparametric Statistics

BIS 580

Applied Biostatistical Research

BIS 590

Biostatistics Seminar

BIS 600

Special Topics in Biostatistics

BIS 641

Advanced Statistical Inference

BIS 642

Methods of Multivariate Analysis

BIS 650

Design and Analysis of Response Surface Experiments

BIS 690

Research in Biostatistics

School of Business

BUS 624

Statistical Elements of Quantitative Management

BUS 632

Statistical Analysis

BUS 648

Managerial Decision Making

ECO 612

Econometrics

Mathematical Sciences

CSC 500

Computer Methods for Research (Programming and Survey of Statistical Packages such as SAS and SPSS)

MAT 503

Introduction to Stochastic Processes

MAT 603-604

Advanced Probability Theory

STA 513-514

Mathematical Statistics

STA 523

Nonparametric Statistical Methods

STA 533

Applied Linear Regression

STA 543-544

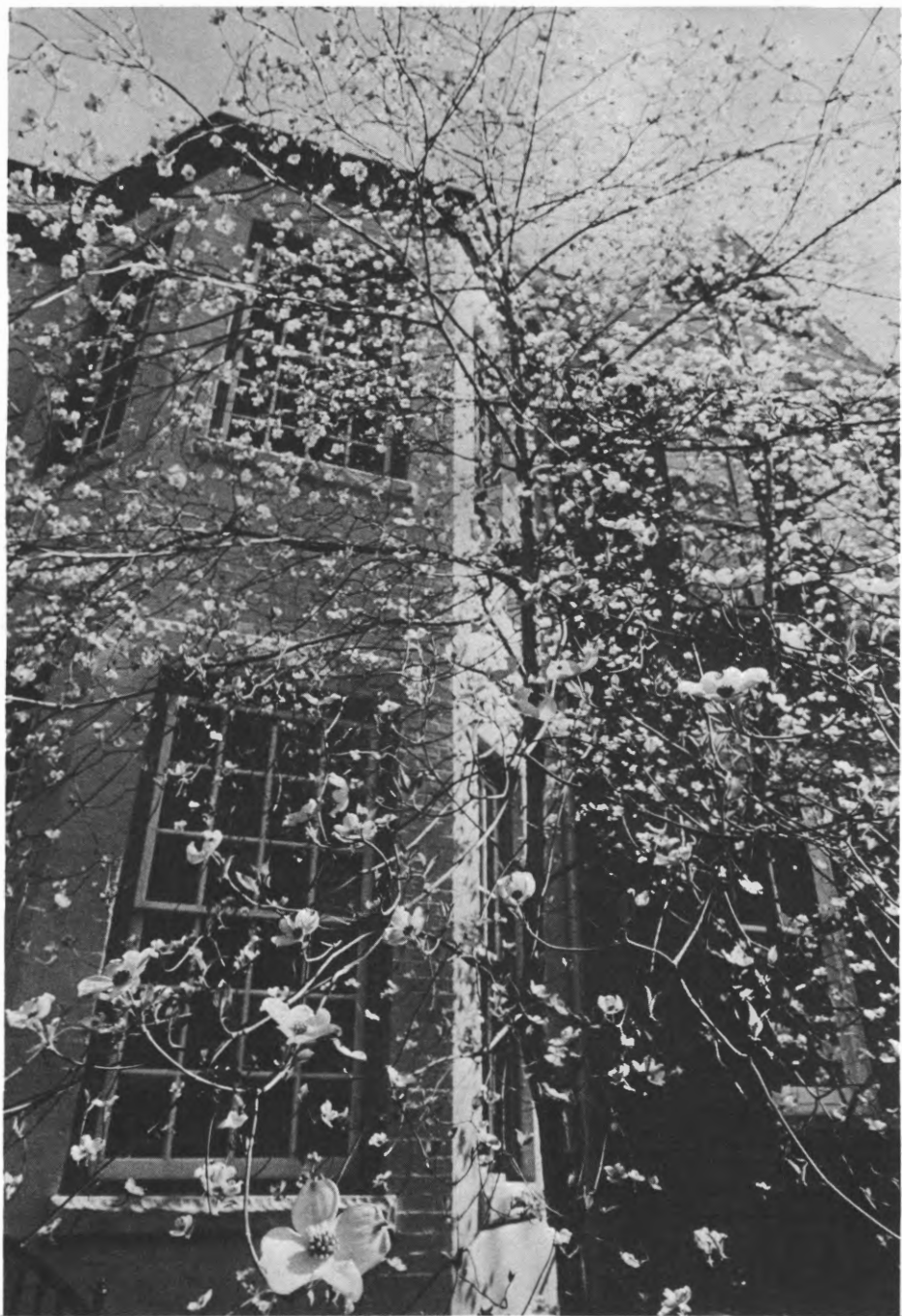
Statistical Methods

STA 613-614

Stochastic Processes

260 Interdisciplinary and Cooperatively Offered Graduate Degrees

| | | | |
|------------|-------------------------------------|-----------|--------------------------------------|
| STA 623 | Discrete Multivariate Analysis | PSY 627 | Statistics in Psychological Research |
| STA 643 | Topics in Statistics | Sociology | |
| Psychology | | SOC 608 | Advanced Statistical Methods |
| PSY 609 | Design of Psychological Experiments | SOC 623 | Causal Analysis |



PART XIII—Board, Administration, and Faculty

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- Laurin L. Henry, B.A., M.A., Ph.D.
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Dean, School of Dentistry
- Charles Ruch, A.B., M.A., Ph.D.
Dean, School of Education
- Jesse Steinfeld, B.S., M.D.
Dean, School of Medicine
- Doris Yingling, R.N., B.S., M.A., Ed.D.
Dean, School of Nursing
- Warren E. Weaver, B.S., Ph.D.
Dean, School of Pharmacy
- Elaine Z. Rothenberg, B.A., M.S.S.
Dean, School of Social Work

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Associate Dean, School of Community and Public Affairs
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Associate Dean School of Medicine
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Assistant Dean, School of Nursing
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Assistant Dean, School of Social Work

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Director, Student Financial Aid
- Arlick L. Brockwell, A.B., M.Ed.
Director, MCV Gymnasium/Intramural Athletics
- Alexander M. Clarke
Director, Central Biomedical Instrumentation Shop
- Phillip H. Coleman, D.V.M., Ph.D.
Director, Central Animal Facility

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 Director of Alumni Activities

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 Director of University Relations

Rozanne Epps, B.A., M.A.
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 Assistant Dean of Student Life and Coordinator of Housing Services

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 Director of Financial Aid, MCV

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 Director of Student Health, MCV

Phyllis Mable, B.S., M.Ed.
 Dean of Student Services

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 Director, University Publications

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 Director of University Libraries

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 Assistant Director, Tompkins-McCaw Library

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 Director of Auxiliary Enterprises and University Services

H. Stephen Moore, Jr., B.S.
 Director of University Personnel

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 Director of Admissions, MCV

Lewis C. Saksen
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 University Registrar

F.W. Taylor III, B.S., M.S.
 Controller

William T. VanPelt, B.S.
 Director, Information Services

Ralph M. Ware, Jr., B.S.
 Director of Development

Mary Ann Smith, R.N.
 Student Health Nurse, MCV

W. Loren Williams, B.S., M.A., Ph.D.
 Director, Educational Planning and Development Program, MCV

FACULTY

Faculty listings include appointments made by the Board of Visitors on March 19, 1981.

Abedi, Shahla (1976) *Assistant Professor of*

Ophthalmology M.D., 1970, Tehran University, Iran.

Abdelsamad, Moustafa H. (1968) *Professor of Finance and Director of Graduate Studies, School of Business* B.Com., 1961, Cairo University; M.B.A., 1965, D.B.A., 1970, George Washington University.

Aboud, John, Jr. (1979) *Associate Professor of Management* B.S., 1962, Juniata College; M.A., 1963, Temple University; Ph.D., 1968, Pennsylvania State University.

Aceto, Mario D. (1973) *Associate Professor of Pharmacology* B.S., 1953, Providence College, Rhode Island; M.S., 1956, University of Maryland; Ph.D., 1958, University of Connecticut.

Ackell, Edmund F. (1978) *President of the University and Professor of Oral Surgery* B.S., 1949, Holy Cross College; D.M.D., 1953, Tufts College; M.D., 1962, Western Reserve University.

Ackley, Robert J. (1979) *Assistant Professor of Business Education and Office Administration* B.S., 1967, M.Ed., 1972, Bloomsburg State College; Ed.D., 1980, Utah State University.

Adams, Judith G. (1977) *Assistant Professor of Medical Technology* B.S., 1966, M.S., 1976, Virginia Commonwealth University.

Adler, Martin (1975) *Professor of Social Work* B.A., 1952, M.S.W., 1956, Ph.D., 1962, University of Pittsburgh.

Adler, Stuart P. (1979) *Assistant Professor of Pediatrics and Microbiology* B.A., 1968, M.D., 1971, Johns Hopkins University School of Medicine.

Allan, Richard E. (1972) *Associate Professor of Mathematical Sciences* B.S., 1947, Samford University; M.A., 1948, University of Alabama; Ph.D., 1971, George Peabody College.

Alexander, Sidney (1978) *Visiting Professor of Art History* B.S., 1934, Columbia University; Honorary Doctorate of Humane Letters, 1977, Ohio University.

Allison, Marvin J. (1961) *Professor of Clinical Pathology* B.A., 1942, College of William and Mary; M.A., 1947, Ph.D., 1960, University of Pennsylvania.

Ambrose, Anthony M. (1934) *Professor Emeritus of Pharmacology* B.S., Philadelphia College of Pharmacy and Science; M.S., 1927, Ph.D., 1929, Fordham University.

Ameen, David (1974) *Associate Professor of Information Systems*, B.S., 1950, U.S. Naval Academy; M.A., 1967, Ph.D., 1973, University of Maryland.

Ames, James E., IV (1980) *Assistant Professor of Mathematical Sciences*, B.S., 1973,

- Hampden-Sydney College; M.A., 1975, Ph.D., 1977, Duke University.
- Anderson, Thomas N., Jr., (1980) *Assistant Professor of Accounting* B.S., 1970, M.B.A., 1973, Old Dominion University, Ph.D., 1980, Virginia Polytechnic Institute and State University.
- Andrako, John (1956) *Assistant Vice President for Health Sciences* B.S., 1947, M.S., 1949, Rutgers University; Ph.D., 1953, University of North Carolina.
- Andrews, Robert L. (1978) *Assistant Professor of Management Science* B.S., 1965, M.A., 1967, University of Alabama; M.S., 1970, Ph.D., 1979, Virginia Polytechnic Institute and State University.
- Apgar, Nicholas A. (1962) *Professor of Communication Arts and Design* B.F.A., 1958, M.F.A., 1960, Syracuse University.
- Archer, Gordon L. (1975) *Associate Professor of Medicine* B.A., 1965, Washington and Lee University; M.D., 1969, University of Virginia.
- Arginteanu, Jules (1964) *Professor of Psychiatry* B.A., 1956, Antioch College; M.A., 1960, Ph.D., 1961, State University of Iowa.
- Arling, Gregory (1977) *Associate Professor of Gerontology and Director of the Center on Aging* B.A., 1969, Augustana College; Ph.D., 1974, University of Illinois.
- Armour, Robert A. (1963) *Professor of English* B.A., 1962, Randolph-Macon College; M.A., 1963, Vanderbilt University; Ph.D., 1968, University of Georgia.
- Armstrong, Crichton J., (1978) *Assistant Professor of Public Administration* B.A., 1966, Hollins College; M.Sc. in Economics, 1969, London School of Economics and Political Science in Economics.
- Astruc, Juan A. (1967) *Professor of Anatomy* M.D., 1957, Ph.D., 1959, University of Granada, Spain.
- Auerbach, Stephen M. (1973) *Associate Professor of Psychology* B.A., 1965, Queens College; M.S., 1969, Ph.D., 1971, Florida State University.
- Bailey, James W. (1964) *Professor of Education* A.B., 1942, Cornell College; B.D., 1947, Garrett Theological Seminary; M.Ed., 1950, University of Chicago.
- Bailey, Kent G. (1968) *Professor of Psychology* B.A., 1962, Emory and Henry College; M.S., 1964, Richmond Professional Institute; Ph.D., 1969, West Virginia University.
- Baker, Robert L. (1978) *Associate Professor of Business Education and Office Administration* B.A., 1969, M.B.E., 1972, Georgia State University; Ph.D., 1977, Ohio State University.
- Baker, Stanley E. (1971) *Assistant Professor of Education* B.A., 1955, Virginia Union University; M.A., 1968, M.Ed., 1974, Ed.D., 1975, Columbia University.
- Balcerak, Kenneth J. (1980) *Assistant Professor of Nurse Anesthesia* B.S., 1974, St. Louis University; M.A., 1977, Webster College, B.S.N., 1980, St. Louis University.
- Balogun, Jacob O. (1981) *Assistant Professor of Accounting* B.S., 1976, M.B.A., 1977, Youngstown State University; Ph.D., 1980, Louisiana State University.
- Balster, Robert L. (1973) *Associate Professor of Pharmacology* B.S., 1966, University of Minnesota; Ph.D., 1970, University of Houston.
- Banks, William L., Jr. (1965) *Professor of Biochemistry and Surgery* B.S., 1958, Rutgers University; M.S., 1961, Bucknell University; Ph.D., 1963, Rutgers University.
- Barber, Alice L. (1964) *Associate Professor of Social Work* B.S., 1945, Southwestern Louisiana College; M.S.W., 1953, Tulane University.
- Barker, Thomas C. (1967) *Professor of Health Administration and Dean, School of Allied Health Professions* B.S., 1954, M.A., 1960, Ph.D., 1963, State University of Iowa.
- Barr, William H. (1972) *Professor and Chairman, Department of Pharmacy and Pharmaceuticals* B.S., 1960, Pharm.D., 1961, Ph.D., 1966, University of California, San Francisco.
- Barris, Roann (1981) *Assistant Professor of Occupational Therapy* B.A., 1972, University of Michigan; M.S., 1976, Columbia University.
- Bass, Robert G. (1962) *Professor of Chemistry* B.S., 1954, Virginia Polytechnic Institute and State University; Ph.D., 1961, University of Virginia.
- Batchelder, Harold C. (1968) *Associate Professor of Psychiatry (Social Work)* B.A., 1952, Elon College; M.S.S.W., 1960, Richmond Professional Institute.
- Batty, L. Wayne (1949) *Professor of Music* B.M.Ed., 1946, Illinois Wesleyan University; B.M., 1948, Kansas City Conservatory; M.M., 1949, Chicago Musical College.
- Bauer, David F. (1974) *Assistant Professor of Mathematical Sciences* B.S.Ed., 1963, E. Stroudsburg State College; M.S., 1965, Ohio University; Ph.D., 1970, University of Connecticut.
- Baumgarten, Clive M. (1979) *Assistant Professor of Physiology* B.A., 1970, Ph.D., 1976, Northwestern University.

- Beacham, E. Walton (1973) *Associate Professor of English* B.S., 1967, Georgia Institute of Technology; B.A., 1968, Georgia State University; M.A., 1970, M.F.A., 1970, University of Arkansas.
- Beale, Andrew V. (1969) *Professor of Education* A.B., 1963, M.S., 1964, University of North Carolina; Ed.D., 1969, University of Virginia.
- Beall, Larry (1970) *Associate Professor of Economics* B.A., 1963, State University of New York at Binghamton; M.A., 1967, University of South Carolina; Ph.D., 1973, Duke University.
- Beers, Carol S. (1978) *Assistant Professor of Education* B.A., 1966, William Smith College; M.Ed., 1968, Goucher College; M.Ed., 1971, Ed.D., 1976, University of Virginia.
- Beeston, John T., III (1978) *Assistant Professor of Nurse Anesthesia* Diploma, 1968, St. Luke's Hospital, Duluth, Minnesota; Diploma, 1970, Mayo Clinic, Rochester, Minnesota; B.S., 1976, University of Minnesota.
- Behm, Frederick G. (1979) *Assistant Professor of Pathology* B.S., 1970, University of Wisconsin, Oshkosh; M.D., 1974, Medical College of Virginia.
- Bennett, Beate H. (1977) *Assistant Professor of Theatre* B.A., 1967, Gustavus Adolphus College; Ph.D., 1975, University of South Carolina.
- Berglund, John F. (1972) *Associate Professor of Mathematical Sciences* B.A., 1962, Ohio Wesleyan University; Ph.D., 1967, Tulane University.
- Bernard, L. Diane (1979) *Professor of Social Work* B.A., 1949, Roosevelt College; M.A., 1952, University of Houston; M.S.W., 1954, Tulane University; Ph.D., 1967, Bryn Mawr College.
- Berry, Boyd M. (1974) *Associate Professor of English* B.A., 1961, Harvard University; M.A., 1962, Ph.D., 1966, University of Michigan.
- Berry, Sam G. (1971) *Associate Professor of Finance* B.S., 1967, M.B.A., 1968, D.B.A., 1976, Florida State University.
- Beverly, David P. (1973) *Associate Professor of Social Work* B.A., 1952, University of Richmond; M.S.S.W., 1964, Richmond Professional Institute; D.S.W., 1971, Catholic University of America.
- Bevilaqua, William (1955) *Professor of Communication Arts and Design* B.F.A., 1950, Virginia Commonwealth University; M.F.A., 1951, University of North Carolina.
- Bhatnagar, Ajay S. (1968) *Assistant Professor of Obstetrics and Gynecology and Biochemistry* B.A., 1963, M.A., 1967, Cambridge University; Ph.D., 1967, University of Basel, Switzerland.
- Biber, Margaret C. (1975) *Associate Professor of Physiology* B.Sc., 1964, University College, London; D.Phil., 1967, Oxford University (England).
- Biber, Thomas U. L. (1975) *Professor of Physiology* M.D., 1956, University of Bern Medical School, Switzerland.
- Bick, Donald A. (1973) *Assistant Professor of Music* B.M., 1970, Eastman School of Music; M.M., 1974, University of Maryland.
- Bick, Peter H. (1978) *Assistant Professor of Microbiology* A.B., 1970, Albion College; M.S., 1972, University of Michigan; Ph.D., 1975, University of Michigan.
- Biggerstaff, Marilyn A. (1977) *Assistant Professor of Social Work* B.A., 1967, Baker University; M.S.W., 1969, University of Kansas; D.S.W., 1976, University of Southern California.
- Bilyeu, Landon (1974) *Associate Professor of Music* B.M., 1962, Centenary College; M.M., 1964, University of Tulsa.
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- Fleming, Robert S. (1968) *Professor of Education* A.B., 1931, East Carolina College; M.A., 1936, George Peabody College; Ed.D., 1949, New York University; Litt.D., 1963, Trenton State College.
- Fleshhood, Arnold P. (1965) *Associate Vice-President for Academic Affairs and Professor of Education* B.A., 1950, University of Richmond; M.S., 1954, Virginia Polytechnic Institute and State University; Ed.D., 1961, Columbia University Law School.
- Flint, Richard C. (1973) *Assistant Professor of Art History* B.A., 1967, Harpur College; M.A., 1969, Hunter College.
- Flora, Roger E. (1968) *Adjunct Associate Professor of Biostatistics* B.S., 1960, University of Virginia; M.S., 1964, Ph.D., 1966, Virginia Polytechnic Institute and State University.
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- Ford, Lana J. (1978) *Assistant Professor of Occupational Therapy* B.S., 1967, M.Ed., 1974, University of Kansas.
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- Freed, David C. (1967) *Professor of Painting and Printmaking* B.F.A., 1958, Miami University; M.F.A., 1963, University of Iowa; 1964, Royal College of Art, London (one year).
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- Gates, James E. (1975) *Associate Professor of Biology* B.S., 1965, M.S., 1967, Northern Illinois University; Ph.D., 1972, University of Missouri.
- Geeraets, Ragnit (1972) *Assistant Professor of Ophthalmology and Anatomy* M.S., 1968, Ph.D., 1972, Virginia Commonwealth University.
- Gerstzen, Enrique (1961) *Professor of Pathology* M.D., 1958, University of Buenos Aires.
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- Giebel, Peter E. (1977) *Assistant Professor of Biology* B.S., 1969, City University of New York; Ph.D., 1974, University of North Carolina.
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- Gillespie, James Earnest (1978) *Assistant Professor of Ophthalmology* B.A., 1966, Vanderbilt University; M.D., 1970, University of Rochester.
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- Goldman, I. David (1974) *Professor of Medicine and Vice-Chairman, Department of Medicine* B.A., 1958, New York University; M.D., 1962, The University of Chicago.
- Goldstein, Lewis C. (1955) *Professor of Biology* B.S., 1938, M.S., 1940, University of Richmond; Ph.D., 1947, University of Virginia.
- Gowdy, Robert H. (1978) *Assistant Professor of Physics* B.S., 1963, Worcester Polytechnic Institute; M.S., 1964, Ph.D., 1968, Yale University.
- Gray, George R. (1977) *Associate Professor of Personnel and Industrial Relations* B.S., Auburn University; M.B.A., University of Scranton; Ph.D., University of Alabama.
- Green, Robert (1975) *Assistant Professor of Social Work* B.S., 1967, Richmond Professional Institute; M.S.W., 1970, Virginia Commonwealth University, Ph.D., 1980, Virginia Polytechnic Institute and State University.
- Greenberg, Richard (1978) *Assistant Professor of Surgery* B.A., 1965, Brooklyn College, New York; M.D., 1972, Bologna University Medical College; Ph.D., 1978, Medical College of Virginia of Virginia Commonwealth University.
- Grey, Robert J., Jr. (1978) *Assistant Professor of Business* B.S., 1973, Virginia Commonwealth University; J.D., 1976, Washington and Lee University.
- Grieve, Bonnie-Jo, (1979) *Assistant Professor of Human Genetics* B.S., 1969, Cornell University; M.D., 1973, University of Utah; M.S., 1979, University of Wisconsin.
- Griffin, Claudius W. (1960, 1969) *Associate Professor of English* B.S., 1958, M.A., 1960, University of Richmond; Ph.D., 1973, Indiana University.
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- Haas, Frederick C. (1969) *Professor of Business Administration and Management* B.B.A., 1956, M.B.A., 1958, M.A., 1965, Hofstra University; Ph.D., 1968, University of Florida.
- Hadfield, M. Gary (1970) *Professor of Pathology* B.A., 1960, Brigham Young University; M.D., 1964, University of Utah.

- Hague, James L. (1970) *Associate Professor of Administration of Justice and Public Safety* B.A., 1963, Washington and Lee University; J.D., 1966, University of Michigan Law School; LL.M., 1976, University of Virginia.
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- Hall, Thomas O., Jr. (1967) *Professor of Philosophy and Religious Studies and Chairman, Department of Philosophy and Religious Studies* A.B., 1945, Hampden-Sydney College; B.D., 1947, Th.M., 1949, Th.D., 1955, Southwestern Baptist Theological Seminary.
- Hall, Wayne C. (1974) *Vice-President for Academic Affairs and Professor of Biology* B.A., 1941, M.S., 1946, Ph.D., 1948, University of Iowa.
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- Hamer, Robert M. (1979) *Assistant Professor of Psychiatry and Biostatistics* B.A., 1971, University of North Carolina, Chapel Hill; M.S., 1976, North Carolina State University; Ph.D., 1979, University of North Carolina, Chapel Hill.
- Hamm, Robert J. (1974) *Associate Professor of Psychology* B.A., 1968, Kent State University; M.A., 1972, Ph.D., 1974, Southern Illinois University.
- Hammersley, William S. (1976) *Assistant Professor of Crafts* B.S., 1972, M.F.A., 1976, University of Wisconsin, Madison.
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- Hardie, Edith L. (1969) *Assistant Professor of Physiology* B.S., 1954, Georgetown University; Ph.D., 1969, Medical College of Virginia of Virginia Commonwealth University.
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- Harkins, Elizabeth B. (1979) *Assistant Professor of Gerontology* B.S.N., 1967, University of North Carolina; M.A., 1972, Ph.D., 1975, Duke University.
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- Hawkes, Glenn R. (1968) *Professor of Psychology* B.A., 1950, M.A., 1956, Ph.D., 1958, University of Virginia.
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- Heck, J. Louis (1980) *Assistant Professor of Health Administration* B.A., 1974, University of North Carolina, M.B.A., 1977, University of South Carolina.
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- Hess, Michael L. (1971) *Professor of Physiology* B.S., 1964, St. Francis College; M.D., 1968, University of Pittsburgh.
- Hester, Robert F. (1953) *Professor of Art and Associate Dean, School of the Arts* B.S., 1946, Wake Forest College; Diploma, 1949, Parsons School of Design; Graduate Study, 1960, University of London; M.A., 1962, Cornell University; Graduate Study, 1965, National Trust Summer School (England).
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- Hill, Ada D., (1969) *Assistant Professor of Education* B.A., 1944, St. Augustine's College; M.S., 1969, Virginia State College; Ed.D., 1976, American University.
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- Hopper, Gary C. (1974) *Assistant Professor of Theatre* B.S., 1968, M.A., 1970, University of Wisconsin, Madison; M.F.A., 1972, Boston University.
- Hormachea, Marion M. (1964) *Professor of Recreation* B.S., 1954, Virginia Commonwealth University; M.S., 1958, University of Richmond.
- Hornbuckle, Phyllis A. (1958) *Assistant Professor of Psychology* B.A., 1959, Pfeiffer College; M.A., 1966, College of William and Mary; Ph.D., 1969, Emory University.
- Hossaini, Ali A. (1963) *Professor of Pathology and Director, Blood Bank* B.S., 1953, American University of Beirut; M.S., 1956, Texas Christian University; Ph.D., 1960, Ohio State University.
- Howell, Richard (1975) *Assistant Professor of Recreation* B.S., 1961, U.S. Air Force Academy; M.U.R.P., 1975, Virginia Commonwealth University.
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- Huebner, Lois A. (1980) *Assistant Professor of Psychology* B.A., 1970, Wheaton College; M.S., 1972, Ph.D., 1975, Colorado State University.
- Huf, Ernst G. *Professor Emeritus of Physiology* Ph.D., 1931, M.D., 1937, University of Frankfurt.
- Humphreys, L. Wade (1978) *Assistant Professor of Management* B.S., 1957, University of North Carolina; M.B.A., 1970, Georgia State University; D.B.A., 1977, Florida State University.
- Humphreys, Neil J. (1969) *Associate Professor of Management* B.A., 1957, M.B.A., 1961, Drexel University Institute of Technology; Ph.D., 1970, University of Pennsylvania.
- Hunt, Eugene H. (1968) *Professor of Business* B.S., 1959, M.S., 1961, Virginia Commonwealth University; Ed.D., 1968, University of Maryland.
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- Hydorn, Marguerite E. (1973) *Associate Professor of Nursing* B.S., 1951, Wayne State University; M.Ed., 1954, University of Maryland.
- Hylemon, Philip B. (1972) *Associate Professor of Microbiology* B.S., 1967, Atlantic Christian College; Ph.D., 1972, Virginia Polytechnic Institute and State University.
- Hynson, Priscilla C. (1967) *Associate Professor of Art Education* B.S., 1952, East Carolina University; M.A., 1963, Ed.D., 1969, George Peabody College.
- Ipsen, Kent F. (1973) *Professor of Crafts* B.S., 1961, M.S., 1964, M.F.A., 1965, University of Wisconsin.
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PRIVACY RIGHTS OF PARENTS AND STUDENTS

Provisions for the release of information concerning students, including the rights of access by students and others to education records maintained by Virginia Commonwealth University, are as follows:

A. Release of Personally Identifiable Student Information

It is the policy of Virginia Commonwealth University that "personally identifiable information," other than "directory information" from a student's education records, will not be disclosed, without the written consent of the affected student, to any party or organization which does not have a legitimate right of access to the information. The persons or organizations which are deemed to have legitimate rights of access are:

1. Virginia Commonwealth University officials and staff, and university academic excellence and honor societies, fraternities, and sororities which have a designated faculty advisor. Requests from such officials or organizations shall be directed to the appropriate office and proper identification will be required. Access will not be granted unless it is determined that the person or organization is deemed to have a legitimate educational interest, which is defined as having some reasonable relationship to instruction, supervision, administration, or other similar responsibility of this university.
2. Appropriate persons in connection with a student's application for or receipt of financial aid.
3. Appropriate federal or state education authorities.
4. Organizations conducting studies for, or on behalf of, Virginia Commonwealth University, for the purpose of assisting the university in the accomplishment of its stated mission and purpose; provided, however, that such information will be used only by such organizations and will be destroyed when no longer needed for the intended purpose. The university registrar or the assistant university registrar must approve requests of this nature.
5. Accrediting organizations.
6. Parents of a dependent student, as defined in Section 152 of the Internal Revenue Code. (Note: Husbands and wives are not entitled to obtain records of their spouses without the consent of the spouse, regardless of dependency.)
7. In compliance with judicial order or subpoena, after the university has made a reasonable effort to notify the student.
8. Appropriate persons in connection with an emergency if such knowledge is necessary to protect the health or safety of a student or other persons.

NOTE: Custodians of student records will maintain a record of all individuals and agencies which have requested or obtained access to a student's record (except those listed in A(1) and (6) above). This record will specifically indicate the legitimate interest that the person or

agency had in obtaining the information, and the information made available will be limited to that necessary to satisfy such demonstrated needs. In addition, custodians will, prior to the release of "personally identifiable information" from a student's record, obtain assurances that the information will be used only for the purpose for which the original disclosure is made and that there will be no further disclosure without the student's consent.

B. Definitions:

1. **Education Records.** "Education records" are defined as those records, files, documents, and other materials which (1) contain information directly related to a student; and (2) are maintained by Virginia Commonwealth University or by a person acting for the university. They do *not* include (1) personal notes and other such information which is in the sole possession of the maker and which is not accessible or revealed to any other individual; (2) records available only to law enforcement personnel; (3) employment records; (4) medical, psychological, and psychiatric records which are disclosed only to individuals providing treatment and which can be made accessible to the student's personal physician or other appropriate person of the student's choice; or (5) information collected on a person who is no longer a student at Virginia Commonwealth University and which pertains to activities or accomplishments that occurred after the person ceased to be a student at VCU (e.g., records of the accomplishments of alumni). A list of education records maintained by the university and the location thereof is available in the Office of the University Registrar.
2. **Student.** A "student" is any person who is or has been enrolled at Virginia Commonwealth University, and with respect to whom education records are maintained by the university, and includes a parent of a "dependent student," as defined in Section 152 of the Internal Revenue Code.
3. **Directory Information.** "Directory information" includes the following: a student's name, mailing address and telephone number, local address and telephone number, semesters of attendance, load status (full- or part-time), date of admission, date of graduation, school, major and minor fields of study, whether or not currently enrolled, classification (freshman, sophomore, etc.), type of degree being pursued, honors, awards, degree received, weight and height of members of athletic teams, and whether the student has participated in officially recognized activities and sports sponsored by the university. At the time of registration, and not later than 14 days after the beginning of a term, the student may submit to the Academic Records Office a written request that directory information pertaining to that student not be released. This request is effective only for the one semester and must be renewed at the beginning of each academic term.

4. *Access.* Access to an education record signifies the right to inspect one's records and includes the right to obtain copies of that record.

C. *Procedure for Gaining Access to Education Records*

To obtain access to one's records, a student must advise the custodian of the records of his or her desire to examine such records. If desired, the student may also request an explanation and/or copies of such records. A reasonable fee will be charged for copies provided. Examination will be permitted under conditions which will prevent alteration or mutilation of the record. A student must present proper identification upon the request of the custodian of the records.

If the student believes the record content to be inaccurate, he or she may submit a request to amend the record. Normally, such matters will be satisfactorily resolved in the course of informal discussions with the student. When agreement cannot be reached, a written challenge as to the accuracy of the record may be presented to the record custodian, who will provide a response to the student within a period of 45 days. If the student's request is not granted, the student will also be advised of his or her right to a hearing. The student may then submit a written request for a hearing to the dean of student life, who will refer the matter to the University Hearing Board. The normal procedures established for the Hearing Board will govern such appeals. If the appeal is denied, the student may submit to the University Hearing Board a written explanation to be inserted into the record.

NOTE: This procedure does not provide for a hearing to contest an academic grade.

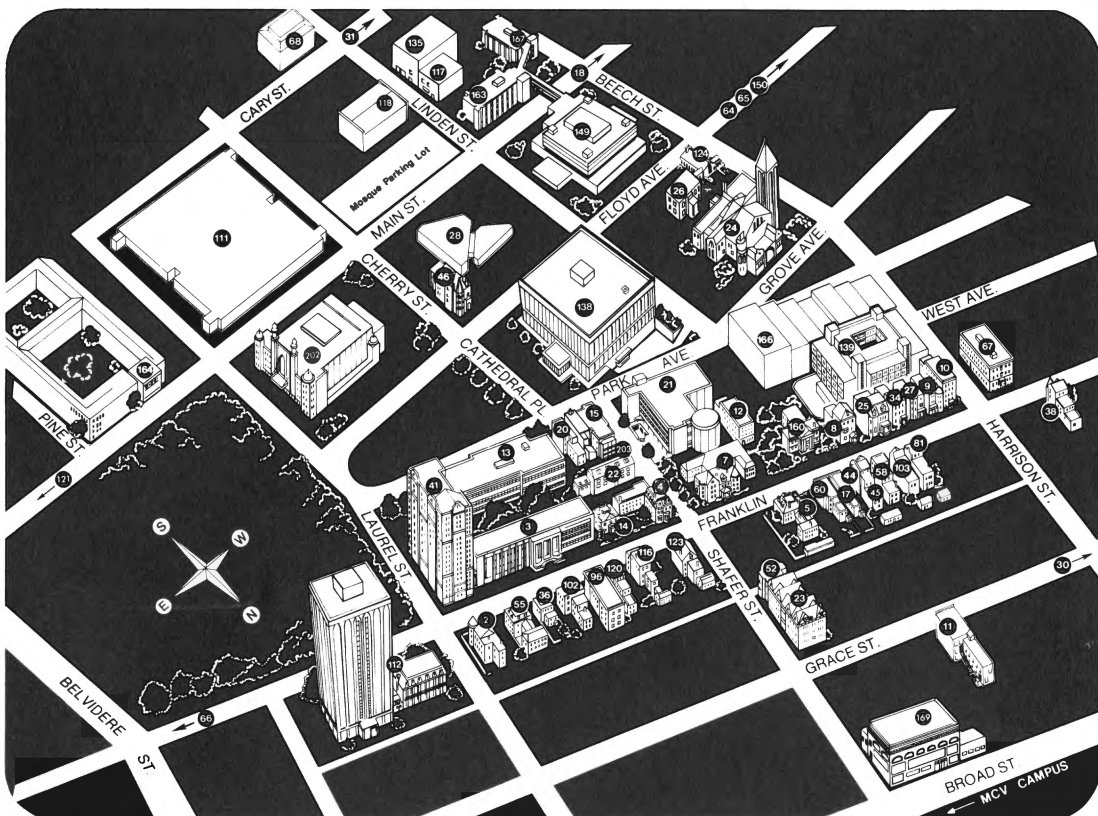
D. *Limitations on Rights of Access*

A student is not entitled access to:

1. Financial records of parents or any information therein.
 2. Confidential letters and statements of recommendation which were placed in the education records prior to January 1, 1975, as well as those received subsequent to that date when the student has specifically waived, in writing, his or her right to examine or review said letter(s) or statement(s).
 3. Medical and/or psychiatric records, when the attending physician has made a part of the record a written statement that in his or her opinion, the review of the records by the person who is the subject of the record would not be in the best interests of said person.
- E. The university retains all rights to the student's academic record and may withhold transcripts of the record because of unfulfilled obligations to the university.
- F. These guidelines are promulgated pursuant to Section 438, Pub. L. 90-247, Title IV, as amended, 88 stat. 571-574 (20 U.S.C. §1232g); and the regulations promulgated by the Secretary of Health, Education, and Welfare as published in the *Federal Register* on Thursday, June 17, 1976. A student who feels that the university has failed to comply with applicable regulations is entitled to file a complaint with the Secretary of Health, Education, and Welfare.

Building

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|----|--|-----|--|-----|--|
| 2 | Williams House, 800 W. Franklin St. | 30 | 620 N. Lombardy St. | 111 | VCU Parking |
| 3 | Franklin Street Gymnasium, 817 W. Franklin St. | 31 | 1004 W. Cary St. | 112 | Rhoads Hall, 710 W. Franklin St. |
| 4 | Founders Hall, 827 W. Franklin St. | 34 | Bowe House, 917 W. Franklin St. | 116 | Bird House, 820 W. Franklin St. |
| 5 | President's House, 910 W. Franklin St. | 36 | 808 W. Franklin St. | 117 | Physical Plant Warehouse, 6 S. Linden St. |
| 7 | Ginter House, 901 W. Franklin St. | 38 | Meredith House, 1014 W. Franklin St. | 118 | 25 S. Linden St. |
| 8 | Anderson House, 913 W. Franklin St. | 41 | Johnson Hall, 801 W. Franklin St. | 120 | Harrison House, 816 W. Franklin St. |
| 9 | Scherer Annex, 921 W. Franklin St. | 44 | Millhiser House, 916 W. Franklin St. | 121 | Planning & Finance Building, 327 W. Main St. |
| 10 | Scherer Hall, 923 W. Franklin St. | 45 | 916 W. Franklin St. (rear) | 123 | Blanton House, 826-28 W. Franklin St. |
| 11 | 918 W. Grace Street | 46 | Sitterding House, 901 Floyd Ave. | 124 | 1022 Floyd Ave. |
| 12 | Anderson Gallery, 907½ W. Franklin St. | 52 | Center for Improving Teaching Effectiveness, 310 N. Shafer St. | 135 | Physical Plant Shops, 10 S. Linden St. |
| 13 | Life Sciences Building, 816 Park Ave. | 55 | White House, 806 W. Franklin St. | 138 | James Branch Cabell Library, 901 Park Ave. |
| 14 | Ritter-Hickok House, 821 W. Franklin St. | 58 | McAdams House, 918 W. Franklin St. | 139 | Pollak Building, 325 N. Harrison St. |
| 17 | Brown House, 914 W. Franklin St. | 60 | Stagg House, 912 W. Franklin St. | 149 | School of Business, 1015 Floyd Ave. — Business School Auditorium, 14 N. Linden St. |
| 18 | 1322-24 W. Main St. | 64 | 1128 Floyd Ave. | 150 | 10 N. Brunswick St. |
| 20 | Adkins House, 824 Park Ave. | 65 | 107 N. Morris St. | 160 | 909 W. Franklin St. |
| 21 | Hibbs Building, 900 Park Ave. | 66 | Holiday Inn, 301 W. Franklin St. | 163 | Oliver Hall - Physical Sciences Wing, 1001 W. Main St. |
| 22 | Shafer Street Playhouse, 221 N. Shafer St. | 67 | Raleigh Building, 1001 W. Franklin St. | 164 | Apartment Dormitory, 711 W. Main St. |
| 23 | Lafayette Hall, 312 N. Shafer St. | 68 | Cary Street Gym, 911 W. Cary St. | 166 | Music and Theatre Building, 922 Park Ave. |
| 24 | VCU Music Center, 1015 Grove Ave. | 81 | Buford House, 922 W. Franklin St. | 167 | Oliver Hall - Education Wing, 1015 W. Main St. |
| 25 | Decatur-Axtell House, 915 W. Franklin St. | 96 | Franklin Terrace, 812-14 W. Franklin St. | 169 | 1001 W. Broad St. |
| 26 | Education Annex, 109 N. Harrison St. | 102 | Hunton House, 810 W. Franklin St. | 202 | Mosque |
| 27 | Stark House, 919 W. Franklin St. | 103 | Valentine House, 920 W. Franklin St. | 203 | Ask-It, Shafer St. |
| 28 | Student Commons, 907 Floyd Ave. | | | | |



Academic
Campus
Locator

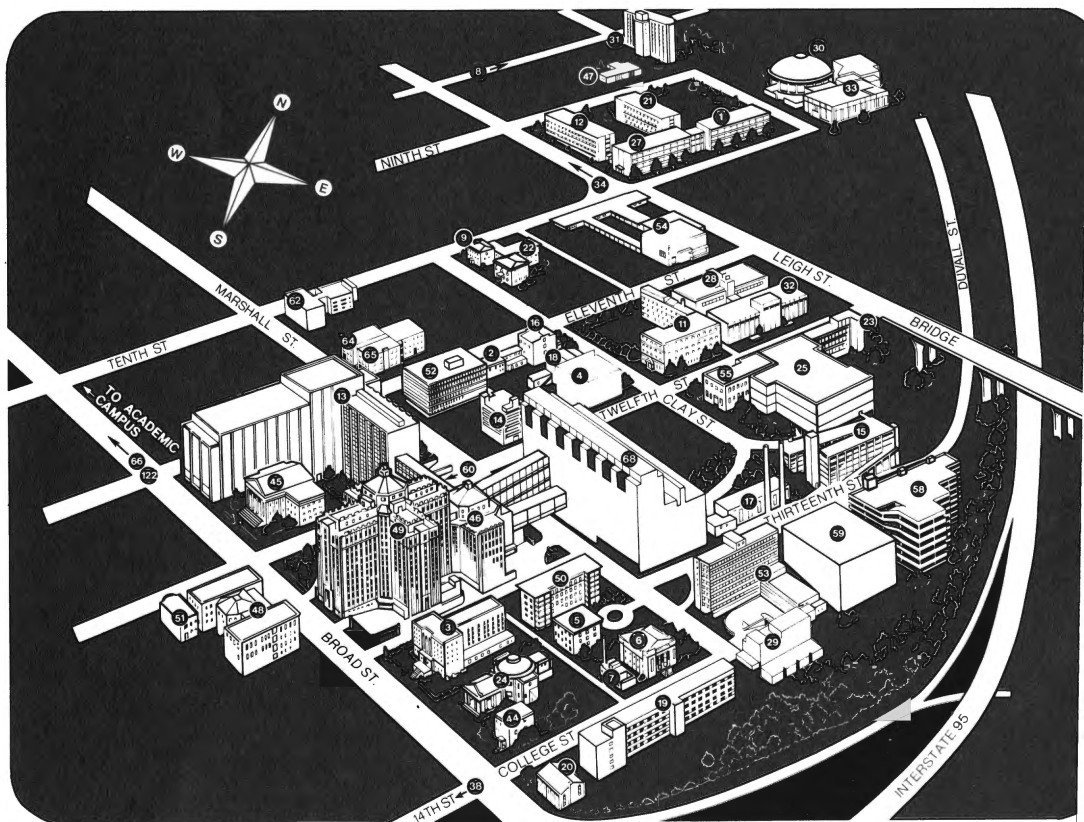


Code Building

- 1 Bear Hall, 10th & Leigh St.
- 2 Personnel Annex Building, 411 N. 11th St.
- 3 Nursing Education Building, 1220 E. Broad St.
- 4 Pharmacy/Pharmacology Building, 410 N. 12th St.
- 5 Dooley Building, 1225 E. Marshall St.
- 6 Egyptian Building, 1223 E. Marshall St.
- 7 Pathological Incinerator, 316 College St.
- 8 Physical Plant Shops Building, 659 N. 8th St.
- 9 Leigh House, 1000 E. Clay St.
- 11 McGuire Hall, 1112 E. Clay St.
- 12 McRae Hall, 10th & Leigh St.
- 13 Sanger Hall, 1101 E. Marshall St.
- 14 Ambulatory Care Center, 408 N. 12th St.
- 15 MCV/VCU Visitor Parking Deck, 1220 E. Clay St.
- 16 University Personnel Employment Office, 1101 E. Clay St.
- 17 Central Heating & Power Plant, 400 N. 13th St.
- 18 MCV Alumni Building, 1105 E. Clay St.
- 19 Randolph Minor Hall, 307-15 College St.
- 20 Randolph Minor Annex, 301 College St.

- 21 Rudd Hall, 10th & Leigh St.
- 22 Sheltering Arms, 1008 E. Clay St.
- 23 Strauss Research Laboratory, 527 N. 12th St.
- 24 Monumental Church, 1224 E. Broad St.
- 25 Tompkins-McCaw Library, 509 N. 12th St.
- 26 Toxicology Laboratory & Rodent House, 9 N. 13th St.
- 27 Warner Hall, 10th & Leigh St.
- 28 Wood Memorial Building, 521 N. 11th St.
- 29 Cancer Center, E. Marshall & College St.
- 30 Larrick Student Center, 641 N. 8th St.
- 31 Cabaniss Hall, 600 N. 8th St.
- 32 Lyons Dental Building, 520 N. 12th St.
- 33 Gymnasium, 9th & Leigh St.
- 34 Animal Research Facility, Hanover County
- 38 Consolidated Lab Building, 9 N. 14th St.
- 44 Newton House, College & Broad St.
- 45 Old Student Center, 323 Broad St.
- 46 A.D. Williams Memorial Clinic, 1201 E. Marshall St.
- 47 VCU Day Nursery, 610 N. 9th St.
- 48 South Hospital, 1201 E. Broad St.

- 49 West Hospital, 1200 E. Broad St.
- 50 East Hospital, 1215 E. Marshall St.
- 51 Lewis House, 223 Governor St.
- 52 Nelson Clinic, 401-09 N. 11th St.
- 53 North Hospital, 1300 E. Marshall St.
- 54 Virginia Treatment Center, 515 N. 10th St.
- 55 Richmond Academy of Medicine, 1200 E. Clay St.
- 58 Faculty - Staff Parking Deck (Lot D), 515 N. 13th St.
- 59 MCV Hospital Supply & Distribution Building, 403 N. 13th St.
- 60 George Ben Johnston Auditorium, 305 N. 12th St.
- 62 VMI Building, 1000 E. Marshall St.
- 64 Samuel Putney House, 1010 E. Marshall St.
- 65 Stephen Putney House, 1012 E. Marshall St.
- 66 Holiday Inn, 301 W. Franklin St.
- 68 New MCV Hospital, 1200 E. Marshall St.
- 122 Richmond Plaza Building, 111 S. 7th St.



Medical College
of Virginia
Campus Locator



Virginia Commonwealth University
1012 East Marshall Street
Richmond, VA 23298

Special Fourth Class Rate